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The Use of an Oral Hypoglycemic Agent as an Adjuvant in the Treatment of Diabetes Mellitus

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IN 1942, Loubatieres,[1,2] while working with the sulfonamide compounds, found that certain of these agents had a hypogylcemic effect. These compounds were studied further by a group of investigators in Germany,[3,4,5] during the last several years, for their antidiabetic properties. It was found that the arylsulfonylureas had some practical application in the treatment of diabetes mellitus, and this finding has led to a widespread clinical interest in these compounds. It is the purpose of this paper to report the uses of one of these agents, tolbutamide (Orinase),* in the clinical management of diabetes.

Much remains to be learned as to how and why these arylsulfonylureas exert their influence on carbohydrate metabolism. Brown[8] found that Orinase had a mild but definite antithyroid effect in four of nine patients. Thorn[9] and his co-workers studied the effects of these compounds on a patient who had undergone hypophysectomy. The aminobenzene derivative produced a hypoglycemic effect and these findings suggested that a dependency of reaction between the arylsulfonylureas and the pituitary is unlikely. The decreased conversion of galactose or fructose to glucose during arylsulfonylurea action points to the liver as the source of action of this compound. It also suggests that selective interference with hepatic gluconeogenesis might significantly contribute to their hypoglycemic action.

Work done in animals by Ashworth, et. al.[6] suggests that the pancreas may be stimulated by the arylsulfonylureas. The influence is probably exerted through the beta cells of the Isle of Langerhans or is in part due to a reduction in action of hepatic "insulinase." Friedlich[7] and his group have shown in animals that the arylsulfonylureas decrease absorption of glucose from the gut.

In this study we were particularly interested in the usefulness of Orinase as an adjuvant in the treatment of out-patients. Forty diabetics were treated and observed clinically for a period ranging from seven to nine months. Special emphasis was placed on the need to evaluate the

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*Orinase supplied by Upjohn Company.

function of the hemopoietic system — thyroid, pancreas, and liver — in view of the possible toxic effects on these organs. We are also reporting four cases in which Orinase was used in selected patients who were undergoing elective surgery.

METHOD OF STUDY

The 40 patients treated on an out-patient basis were from a rural community. They were classified as mild and moderate diabetics. Orinase was started abruptly with prompt discontinuance of the insulin but diet and other medications were continued without any alterations. Blood sugars were obtained every other day for four times and were then obtained weekly until the dose of Orinase was adjusted. Complete blood counts also were obtained at reasonable intervals to determine any blood dyscrasias. Thymol turbidity, cholesterol, and protein-bound iodine determinations were done periodically to determine the effect of this drug on these systems.

Of the 40 patients in this study, 16 were males and 24 were females; the average age of the males was 58 and that of the females, 59. The duration of diabetes ranged from zero to nine years for the males, and zero to eight years for the females. At the onset of Orinase therapy, 32 of the patients were considered to be poorly controlled. The average dose employed during the entire treatment period was 1.6 grams daily for males and females, and dosage ranged from 0.5 gram to four grams daily.

The weight changes noted in this group are illustrated in Table 1. The greatest weight gain or loss did not exceed 10 pounds. There was no correlation between the weight change and alteration in blood cholesterols.

TABLE 1

Weight Changes	No. Patients	Aver. Change
Weight Gain	14	3.1 lbs.
Weight Loss	12	4.1 lbs.
Unchanged	14	——

In all patients, blood cholesterols were obtained initially and in 22, blood cholesterols were rechecked in three months. As noted in Table 2, the blood cholesterol was significantly elevated following Orinase therapy. The average increase was 39 milligrams per cent and the greatest increase was 250 milligrams per cent.

TABLE 2

	Number Of Cases	Average Initial Determination	Average Determination
Serum Cholesterol	22	211 mgm.%	250 mgm.%
Blood Sugar	40	198 mgm.%	169 mgm.%
Thymol Turbidity	45	1.9 units	1.6 units

In the latter instance, the patient exhibited no clinical manifestations in association with lipemia; however, in this patient, as well as in two others in which the blood cholesterol was elevated following therapy, a paradoxical protein-bound iodine was found. In each instance, the protein-bound iodine was slightly elevated.

The average initial blood sugar in this series was 198 milligrams per cent. The range of blood sugars was from 116 to 337. Twenty-seven of the patients were receiving insulin and 13 were not; however, those not on insulin had elevated blood sugars and glycosuria at the onset of therapy. The insulin range was from 10 to 40 units, with an average 23 units daily. Several of those not receiving insulin were new diabetics who were started on Orinase as their initial therapy. After 48 hours a consistent drop in blood sugar was noted. At the end of one week 10 patients were still considered to be inadequately controlled even though the blood sugar level was lower than the initial level. At the end of three months, eight patients were not completely controlled and in four of these, Orinase therapy was discontinued. In one patient therapy was stopped because of poor co-operation. In the remaining three, the poor control could be explained by dietary indiscretions or intercurrent infection, and in these therapy was continued.

At the end of three months the average blood sugar was 169 milligrams per cent. In patients who continued on treatment for three months, a level below 180 milligrams per cent was considered to be adequate control. It was not found necessary to discontinue therapy in any patient after three months, and approximately one-half of the cases have been on therapy for seven months.

In 10 cases, protein-bound iodine determinations were made three to four weeks after ther-

apy was instituted, and in nine of the 10 these were within the euthyroid range. One patient was found to have an elevated protein-bound iodine and clinically proved to be hyperthyroid. This developed while the patient was on Orinase therapy, which was continued without any other apparent complications and the hyperthyroidism responded to propylthiouracil. The combined therapy with these two drugs did not produce any appreciable change in the hemogram.

Complications were encountered infrequently with the exception of the four patients who became mildly acidotic, necessitating discontinuation of therapy. Only two other cases developed any clinical side effects. In one case, a diffuse maculopapular rash appeared on the extremities which was self-limiting and therapy was not interrupted. The other patient had hypoglycemic reactions manifested by nervousness, sweating, trembling, and prostration. He responded to glucose administration and reduction of Orinase dosage. Weekly complete blood counts were made in all patients and no abnormalities were found. Gastric intolerance was not encountered.

As a whole, the patients had no subjective complaints and many expressed a feeling of well-being, unsolicited.

With the exception of five cases in which the drug was discontinued for reasons previously mentioned, the results in the other 35 cases were considered good in 29 and fair in six[6]. In the latter cases, the blood sugar on occasion would range as high as 180 to 220, but none of these patients became acidotic or showed significant glycosuria. Despite the elevation of blood sugar, these patients felt well and preferred to continue with therapy. Frequent physical examinations revealed no objective changes in their clinical course.

During the course of this study four operations were performed; one was minor and the other three, including an amputation, an orthopedic procedure, and a Watkins interposition with a perineorrhaphy, were considered major procedures. The following represent the case reports of the four operations performed during this study.

Case No. 1: A. H., a 62 year old white female, had had mild diabetes for two years. She had been on 1.5 grams of Orinase daily for two months and was well controlled. She was admitted to the hospital on July 22, 1956 for a repair of a cystocele and rectocele with a Watkins interposition. On the day of operation the preoperative blood sugar was 152 milligrams per cent. She received 0.5 grams of Orinase the morning of the operation. The patient was operated on July 23, 1956 under Pentothal® and maintained on nitrous oxide and ether. The duration of the operation was one hour and 30 minutes. During the procedure, 1,000 cc. of 10 per cent glucose were administered and this was covered with 50 units of regular insulin in the fluids. The immediate postoperative blood sugar was 250 milligrams per cent and four hours postoperatively, the sugar was 57 milligrams per cent. There were no clinical signs of hypoglycemia, and 500 cc. of 5 per cent glucose were given with no insulin. The following morning the fasting blood sugar was 110 milligrams per cent and Orinase was continued. The postoperative course was uneventful.

Case No. 2: I. S., a 78 year old white female with diabetes of four years' duration, entered the Richland Memorial Hospital on February 21, 1957. She had been taking 1.5 grams of Orinase daily for five months. A uterine polyp and cervical polyp were removed by a dilatation and curettage on February 21, 1957. She received nitrous oxide anesthetic and remained under the anesthesia for 35 minutes. Preoperative blood sugar was 156. Postoperative urine was negative for sugar. The patient made an uneventful recovery from the operation, continued the Orinase as usual, and showed no signs of acidosis throughout her hospitalization. Her entire period of hospitalization was 24 hours. We considered this a minor procedure without incident.

Case No. 3: B. T., a 58 year old white female had had moderately severe diabetes for approximately ten years. She had taken as high as 40 units of insulin in the past for control of her diabetes, and at the onset of Orinase therapy she was on 30 units of N. P. H. insulin. She was admitted to the hospital on July 13, 1956, following an automobile accident, with multiple fractures, lacerations, and shock. She had a fractured pelvis and compound fractures of the tibia and fibula and was placed in a body cast. Orinase was started approximately three weeks later because of the difficulty in administering insulin. She was well regulated on Orinase for six weeks; however, at that time she had a psychotic episode which was felt to be unrelated to the Orinase therapy, but the drug was discontinued temporarily. She was on insulin treatment for three weeks and then Orinase was resumed without any adverse effect.

This patient had several operative procedures while on insulin therapy. On December 19, 1956, after Orinase was resumed, external skeletal fixation was removed under Pentothal anesthesia. Her preoperative blood sugar was 94 milligrams per cent and during surgery she received 1000 cc. of 10 per cent glucose. Her immediate postoperative blood sugar was 224 milligrams per cent and she received 20 units of regular insulin. Later in the day, her Orinase therapy was resumed and the following day her blood sugar was

94 milligrams per cent. On January 21, 1957, because of persistent menorrhagia, dilatation and curettage was done under intravenous Pentothal and nitrous oxide. Prior to surgery her blood sugar was 83 milligrams per cent and she received 1000 cc. of 10 per cent glucose during surgery. The blood sugar immediately after surgery was 271 milligrams per cent and one day postoperatively it was 103. The patient received no supplementary insulin, and the Orinase therapy was resumed two and one-half hours after operation. Her postoperative course was uneventful and she was discharged from the hospital on January 25, 1957.

Case No. 4: A. S., a 67 year old white male had been a moderately severe diabetic for 10 years and also had had coronary thrombosis and congestive heart failure. He had been on as high as 60 units of insulin daily, and at the onset of Orinase therapy he was receiving 35 units of N. P. H. On 2.0 grams of Orinase daily the urine became sugar free but the blood sugar ranged between 180 and 200 milligrams per cent. This patient was hospitalized repeatedly because of peripheral vascular disease with eventual diabetic gangrene of the toes. This reponded poorly to medical measures and amputation became imperative despite the patient's poor general condition.

On January 14, 1957 a mid-thigh amputation was done under refrigeration anesthesia augmented with hyoscine, morphine, and cactoid. The preoperative blood sugar was 271 milligrams per cent with a ++ glycosuria. The patient received his usual Orinase dosage the morning of operation. During surgery he received 1000 cc. of 5 per cent glucose with 20 units of regular insulin in the fluids. Immediately postoperatively the blood sugar was 438 milligrams per cent. The Orinase was resumed on the first postoperative day, and on the second day the blood sugar was 512 but the CO_2 combining power was normal. The temperature rose to 104 degrees, respirations became Chenye-Stokes in character, and there was evidence of consolidation in the left base. With the onset of the hyperpyrexia, the patient went into shock but there was no evidence of acidosis by either clinical or laboratory examinations. Because of the marked blood sugar elevation, insulin was resumed but the patient continued his downhill course and expired. It was felt that he had developed an atelectasis and pneumonia; however, an autopsy could not be obtained.

DISCUSSION

On the basis of the treatment of these 40 cases with the oral hypoglycemic agent, we feel that the out-patient care of a diabetic can be simplified. Certain features of this mode of therapy are invaluable. One of our cases, an elderly female and a long-standing diabetic with severe atrophy of the shoulder and thigh muscles from repeated insulin injections, was helped by the oral administration of the drug. Patients with a true sensitivity to insulin should find Orinase equally beneficial.

In this group, most of the patients were elderly and some had poor vision or other infirmities which made this type of therapy very applicable. With Orinase treatment less anxiety was experienced by the new diabetic and by those with a psychological "fear of the needle." The problem of maintenance of sterile technique is no longer a factor. When properly administered and controlled, there is a wide margin of safety with the oral route of administration. Even when acidosis did occur the onset was gradual and was detected easily. These patients went through the usual intercurrent infections with no more difficulty than one would expect with ordinary insulin therapy and no change of dosage was necessary.

Our experience with this group of diabetics follows that of similar groups. Juvenile diabetics and severe diabetics of long standing with large insulin requirements did not respond to this type of medication. The failures encountered in this series represented one juvenile diabetic and three severe diabetics, whose primary insulin dose was over 40 units daily. In this series, 72 per cent of the patients were controlled satisfactorily. Treatment was most successful in the elderly diabetic, whose insulin requirement was small and whose diabetes was of short duration.

The out-patient care of diabetes with Orinase therapy is attractive but attention must be called to certain obstacles. We are particularly impressed with the changes in the cholesterol determinations found in this series. The arteriosclerotic changes associated with diabetes are well known and the tendency toward increased lipemia may be of great significance. It is true that this group represents a small series and the serum cholesterol changes were not of great magnitude; however, the change constitutes a danger that warrants further investigation. Gross lipemia of the serum was noted in two cases without any other clinical manifestations.

The operated cases herein reported briefly show that the hypoglycemic agent can be used by itself and in conjunction with insulin, in a practical manner, in selected cases. Three of our operated cases received a general anesthetic, either inhalation or Pentothal. If the anesthetic is of short duration, and early oral management can be resumed, Orinase is entirely feasible. In these three cases the postoperative course was

uneventful and, in some respects, less complicated than those managed with insulin. An early postoperative rise in blood sugar was followed by a return to normal levels in 24 hours. Supplementary insulin was employed in two cases, but only to cover glucose given intravenously at operation. In the one patient who died postoperatively, it was not felt that Orinase played any part in his demise. He was poorly controlled before operation; however, at this time he had gangrene of the foot and all diabetics present a problem of control with this type of complication. Had it not been for the superimposed pulmonary infection, we feel that Orinase therapy would have proved adequate in conjunction with refrigeration anesthesia.

CONCLUSION

1. The oral hypoglycemic agent, Orinase, has been used with reasonable success in the outpatient care in 35 out of 40 cases of diabetes. Failures were experienced in severe and juvenile diabetics.

2. In over one-half of the cases, a rise in serum cholesterol was noted. The significance of this finding needs further study because of the relationship of lipemia to arteriosclerosis in diabetics.

3. Operation is possible during Orinase therapy, in selected cases, without significant alteration of diabetic control.

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Reading epilepsy

Primary reading epilepsy, a new syndrome delineated by Bickford and co-workers, is diagnosed by the history of a generalized grand mal seizure occurring only after reading. Fairly prolonged reading usually is necessary during which the patient experiences first a feeling as if the jaws were moving and then actual movement of the jaw is observed. Single, brief twitches of the jaw, increasing in frequency, warn the patient of an impending seizure. The process ceases if reading is stopped. The electroencephalogram is normal with the patient awake or asleep, and also with photic stimulation. But reading evokes bilaterally synchronous spike discharges in the tracing. *Harold Stevens, M.D. Reading Epilepsy. New England J. Med. July* 25, 1957.

The Prevention of Hyposenitization Reactions

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REACTIONS to antigens used in hyposensitization usually can be prevented or reduced to a minimum by taking adequate precautions. Even the infrequent but severe constitutional reactions can be controlled if adequate measures are instituted rapidly. The purpose of this paper is to discuss the pitfalls that lead to systemic reactions and to help you recognize, prevent, or control reactions that occur in hyposensitization.

We must arbitrarily omit more than casual reference to drug reactions, although in a large measure what will be said regarding hyposensitization reactions applies as well to reactions to drugs with regard to their causes, manifestations, and treatment.

There are several types of reactions that occur in antigen hyposensitization. The first, the local reaction, is a desirable response to treatment. Local reactions that are exceptionally large, however, should call for caution in any succeeding increments.

Mild systemic or constitutional reactions probably occur once in many hundreds of injections in an allergist's practice. Even then most of these occur in the exquisitely sensitive individuals receiving pollen or mold injections. If one recognizes that most reactions are mild and that many recur in the same individuals, then these sensitive people can be observed closely. By this means extra caution can be applied where it is needed and reason can replace unjustified fear of antigen treatment. Severe systemic or constitutional reactions of the immediate anaphylactic type may occur and be manifested as severe asthma, circulatory collapse, or generalized urticaria. This rare, but serious, type of reaction will be discussed later.

Ordinarily, if the patient is detained for 20 minutes after hyposensitization treatments, systemic reactions can be recognized immediately and treated. They may be manifested by itching of the throat, eyes, or palms; by sneezing or wheezing; or by urticaria. Less commonly one sees such symptoms as headache, exhaustion, uterine bleeding, or gastrointestinal upsets.

There is a form of systemic reaction that is not usually mentioned in the literature. It is insidious in onset and is seen in mold sensitive asthmatic children; here asthma flares up for a night or two after the injection and then recedes. Sometimes the pattern of reaction is so insidious that relationship to treatment is difficult to discern and is misinterpreted as just poor results.

Most of the causes of hyposensitization reactions might be termed preventable. A better understanding of the patient's tolerance, the potency of the antigen, and particularly an understanding of good hyposensitization planning and technique can reduce these difficulties to a minimum.[1,2,3,4,7]

Failure to recognize the individual's limit of tolerance is a prime pitfall. No two people have the same degree of tolerance to an antigen; trying to fit all patients into a standard schedule can lead only to failure. In fact, a patient's tolerance may vary with different antigens, it may vary from year to year, and at various times of the year. Some persons tend to have more systemic reactions than others because their limit of tolerance is relatively fixed.

Many errors and pitfalls can arise in hyposensitization techniques that result in systemic reactions. There may be an error in the starting dose, an error in giving too large a dose or too rapid an increment, an error in too long an interval between treatment, or an error in giving the wrong dilution or extract.

An important safeguard in technique is the matter of pulling back on the plunger before making an injection, to guard against accidental intravenous injection. Yet I cannot dispel the disquieting impression that I have observed one or two so-called "intravenous-type" reactions despite this safeguard.

A tourniquet can be a doctor's best friend but it is a serious pitfall to render a tourni-

quet useless. No tests or injections should be given on any site on the arm that does not allow the effective use of a tourniquet. The deltoid and buttocks are therefore unsafe areas for treatment and the back is unsafe for intradermal testing.

Van Arsdel and Sherman[13] analyzed the incidence of constitutional reactions from hyposensitization treatments and from intradermal skin tests in a 20 year period involving 8,706 patients seen at Roosevelt Hospital, New York. They found that while systemic reactions occurred only once in 700 injections on the average, the pollen sensitive group had 95% of all the constitutional reactions. They found that 15% of the pollen group had at least one systemic reaction. They reported only five mold constitutionals in 8,700 patients. In our hands, systemic reactions with mold extracts poses our biggest problem. About 40% of all our patients are mold sensitive and 19% of these mold sensitive patients had one or more constitutional reactions.

Van Arsdel and Sherman state that about one half of all reactions were so mild they required oral if any medication. About 40% had moderate reactions that required epinephrine for relief. Only 10% of all the constitutional reactions were severe enough to require repeated epinephrine or prolonged treatment with oxygen or other measures.

In analyzing the causes of constitutional reactions to treatment they rank causes in this order:

1. Failure to reduce treatment dose adequately during or after the pollen season, 203 cases.
2. Attempting to exceed the patient's indicated tolerance, 153 cases.
3. Too great an increase in dosage, 88 cases.
4. Cumulative effect of maintenance doses or too long an interval between treatments, 92 cases.
5. Failure to reduce dose when changing to new extract, 14 cases.
6. Giving high concentration or wrong pollen by error, 10 cases.
7. Possible intravenous injection of extracts, 4 cases.

The reactivity and potency of certain extracts can be a factor in the production of constitutional reactions. Certain common extracts are known to be very potent antigens and should be used with caution, not only in hyposensitization but in testing as well. The more potent ones include ragweed, Alternaria, animal danders, cottonseed, flaxseed, fish, nuts, eggs, and buckwheat. Castor bean is so potent that most allergists do not use it even for scratch testing. Many others do not use cottonseed intradermally or for treatment.

Delayed or immediate reactions to sensitizing chemicals, drugs, and serums can at times be prevented by obtaining a history of previous trouble and by administering a substitute less likely to react in the individual[5,6] such as using tetracycline instead of penicillin or bovine instead of horse serum. At other times there seems to be no adequate way of anticipating which patient will react to what drug. The threat of reactions to horse serum can be reduced by the prophylactic immunization with tetanus toxoid. Tetanus antitoxin should be used with extreme caution in any allergic individual or where a story of prior reaction is elicited.

As a screening method, skin testing with drugs, serums, and antibiotics leaves much to be desired. Skin tests are worthless or misleading with aspirin, morphine, codeine, iodides, contrast media, and procain.[5] It is foolhardy to doubt a patient's story of allergy or intolerance to aspirin or other drugs. Severe asthma or other unpleasant sequelae may result. Positive skin tests may at times be obtained with serums and penicillin but the results with such tests often are misleading[9,17] or misinterpreted. A negative test with horse serum or penicillin is no assurance that systemic reactions may not occur. However, a positive skin reaction of the immediate type using 1/20 cc. of a weak dilution of serum or penicillin should alert one to the potential dangers of a severe anaphylactic reaction upon further treatment. A syringe filled with epinephrine on the treatment tray is still the best safeguard.[17]

As a commentary on the false security of a negative sensitivity test, Pendergrass,[10] in reviewing four million urograms, found 25 cases of immediate death attributed to contrast media. Of these deaths, 15 had had negative sensitivity tests.

The factor of pregnancy in its relationship to hyposensitization treatment is worthy of

mention. Pregnancy is an indication for caution but is not a contraindication for hyposensitization treatment. The only instance of vaginal bleeding as a manifestation of overdosage that I have seen occurred in a nonpregnant single woman. This single experience points up the theoretical possibility of uterine contractions in the pregnant allergic woman and the justification for extra precaution in hyposensitization of the pregnant.

TREATMENT OF REACTIONS

When hyposensitization programs are carried out with the foregoing precautions, systemic reactions are less likely to occur or usually are mild and readily controlled when promptly treated. For mild reactions consisting of sneezing, chest tightness, itching, or urticaria, the subcutaneous use of 1/3 cc. of epinephrine 1-1000 or antihistamic solutions often is adequate. In fact, the oral use of ephedrine or antihistaminic often suffices. But epinephrine 1-1000 must always be ready for use on the treatment table if need should arise.

In an effort to prevent allergic reactions, antihistaminic solutions have been combined with antigen. This has been popularized by Simon, Marietta, and Silbert in pollen therapy[11,14,15] and has been used to prevent penicillin reactions by Simon and others.[11] When antihistamics are combined with pollen, both of which are relatively short acting, the reactions may be reduced in size and number but too often local and systemic reactions are merely delayed by this method. Too frequently reactions occur after the patient has left the doctor's office and is out of contact with immediate medical care. Any advantage of increased dose tolerance obtained by this method[11,12] now seems overweighed by the threat of delayed reaction after the patient has left contact. In fact an interesting unconfirmed report by Drassinower[16] suggests that constitutional reactions, at least with house dust, can be controlled as well or better with oral antihistaminics than by the combined antigen- antihistaminic solution method.

Every physician who administers allergenic extracts must recognize that despite every caution, severe constitutional reactions can occur. True of allergens just as with serums, antibiotics, or contrast media, severe reactions can occur that demand immediate and adequate treatment.

Systemic reactions that come on in a few minutes are due probably to accidental seepage or injection into the venous circulation. An immediate severe constitutional reaction is potentially dangerous and always calls for immediate emergency treatment. It may manifest itself as sudden air hunger, a sense of suffocation or choking, asthma, circulatory collapse, shock, or generalized flush. Epinephrine 1-1000, (0.5 cc. or more), depending on the severity, should be given immediately. Epinephrine and a tourniquet should be within arm's reach when antigens are administered. A tourniquet should be placed firmly above the site of the injection of antigen and an additional 1/3 cc. epinephrine should be injected below the tourniquet into the antigen site. There may be little or no local swelling if absorption has been excessively rapid. When the reaction subsides, the tourniquet may be slowly removed. These steps will control all but the most severe and desperate situations, in which case it may be necessary to repeat the epinephrine, to give injectable antihistaminic solutions, to administer aminophyllin intravenously, or to give ACTH intramuscularly or intravenously. After improvement is apparent the follow-up treatment with oral medication is similar to the measures used in controlling mild systemic reactions.

These measures should be carried out quickly but calmly and quietly without upsetting an already disturbed patient. After the initial use of epinephrine and the application of a tourniquet, the use of other more drastic measures, unless indicated, may serve only to increase the patient's discomfort and hence should be reserved for those exceedingly rare but necessary circumstances.

The management of systemic reactions from allergens differs at times from the management of drug reactions, particularly when the latter may be delayed and prolonged. When relief is desired for longer periods than may be afforded by epinephrine or antihistaminics, resort may be had to ACTH or prednisone. It has been established in animals that corticotropins and corticosteroids will prevent artificially induced anaphylactic reactions. ACTH and prednisone have been used in the treatment of serum sickness type reactions, drug reactions, and in severe hyposensitization reactions. However, no controlled statis-

tical studies have been made to evaluate their usefulness in the prevention of immediate or delayed allergic reactions due to drugs or other allergenic materials.

SUMMARY

Allergic reactions following hyposensitization can be prevented or minimized by careful allergic management and by avoiding certain pitfalls in technique. Mild systemic reactions can be controlled quickly if treated promptly. Every physician should be alert to the best methods of treating severe immediate constitutional reactions and should know when best to use epinephrine and a tourniquet or other measures including injectable antihistaminics, aminophyllin, ACTH, and the steroids.

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Time needed for headache

Wolff's long interest in headaches and his great experience must lend weight to his general conclusions about their management. "More than 90 per cent of people with headache have their headache as a result of vascular disturbances, sustained skeletal muscle contraction about the head, and vasomotor disturbances within the nose. ....Two people out of three with this vascular-muscle-tension headache combination can be helped greatly by any physician who is interested in human problems, and willing to spend a minimum of time with his patients in reviewing them with him." It is notable that one who has spent so much time on the study of headache by experimental methods should arrive at such very human conclusions. Perhaps a strictly scientific outlook and a human approach to clinical problems are not as incompatible as they are sometimes made to appear. And we may hope that more clinical investigators will need to be attracted to this kind of investigation. *Editorial. Headache Mechanisms. Brit. M. J. Sept.* 14, 1957.

Cerebral Angiography

Fay H. Squire, M.D., Chicago

Egas Moniz in 1927 first described injections of contrast media into the vessels of the brain and demonstrated them on X-ray films. He and his pupils were the first to point out the features of the vascular lesions and various brain tumors outlined by cerebral angiography. His work was not generally accepted in this country until about 10 years later, when the procedure came into general use.

The technique used has varied some since first introduced, but the prime object has been to obtain X-ray films showing the filling of the arteries, capillaries and veins of the brain. The open and closed methods of injection have been used. We now use the percutaneous method. An 18 gauge needle is inserted into the common carotid artery under general anesthesia (sodium Pentothal®). Thorotrast Hypaque® 50 per cent and Diodrast® 35 per cent have been used as contrast media. We use Diodrast 35 per cent. Ten cc. are injected with a Luer-Lok syringe (metal plunger) as rapidly as possible. As the last two cc. are injected, the X-ray series is started. We use a Sanchez-Perez mutiple exposure machine that takes one film every half second for six films. This is adequate to demonstrate the arterial and venous phase of the cerebral circulation. Films are made in the lateral projections and then, with a second injection, in the anterior-posterior position. Both sides have been injected in one day, but usually only one side is injected. A tracheal airway usually is in place before injection is started to prevent respiratory embarrassment should the contrast medium be injected outside of the artery. General anesthesia is used to eliminate local discomfort and decrease cerebral reaction.

The anatomy of the cerebral vessels is fairly constant.

Director, Department of Radiology, Presbyterian — St. Lukes Hospital.

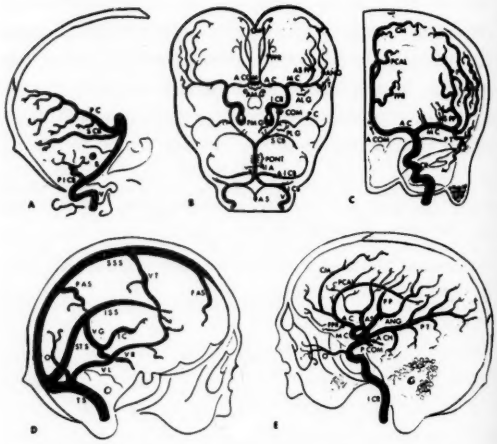

Figure 1 (from chart of Intercerebral Circulation published by the Eastman Kodak Company)
The internal carotid artery traverses the skull through a canal in the petrous portion of the temporal bone and passes forward opposite the sella turcica. The branches of the internal carotid artery given off in the brain are in order of their origin:

1. **Ophthalmic**
2. **Posterior communicating**
3. **Anterior choroidal**
4. **Anterior cerebral**
5. **Middle cerebral**

The anterior cerebral artery gives off:

1. **Anterior communicating**
2. **Frontopolar**
3. **Callosomarginal**
4. **Pericallosal**

The middle cerebral artery gives origin to the Sylvian fissure group of arteries:

1. **Ascending frontoparietal**
2. **Posterior parietal**
3. **Angular**
4. **Posterior temporal**

The posterior cerebral arteries usually are not visualized when the carotid artery is injected. They arise from the basilar artery and are seen when the vertebral arteries are injected.

The major venous channels are:

1. **The superior sagittal sinus, supplied by:**
   a. **Frontal ascending vein**

b. Anastomatic vein of Trolard (Rolandic Vein)
c. Parietal ascending vein

2. The inferior sagittal sinus which drains into the straight sinus.
3. The internal cerebral vein and the vein of Rosenthal unite to form the Great Vein of Galen, which joins the straight sinus at its junction with the inferior sagittal sinus.

These veins all drain into the transverse sinus which also receives blood from:

1. The communicating temporal vein of Labbe
2. The descending temporal occipital.

For the purpose of angiography the pathology of the brain may be divided into the vascular abnormalities and the space-occupying lesions. The vascular lesions comprise the arteriovenous communications, angiomata, aneurysms, and arteriosclerotic changes. Angiomata are characterized by abnormally large, tortuous arteries which form a plexus that joins with large tortuous veins. The contrast medium often is pooled in these vessels after it has left the normal vascular channels. These usually occur on the surface of the brain and do not displace the uninvolved cerebral vessels.

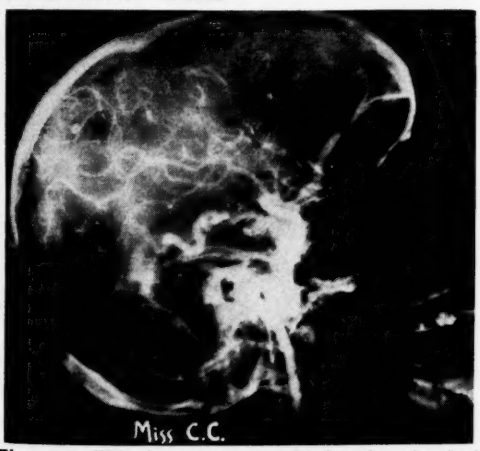

Figure 2. This is a 35 year old female who had two previous attacks of subarachnoid hemorrhage one year apart. A large tortuous vessel is demonstrated within an angioma. The middle cerebral artery is filled normally and not displaced. The anterior cerebral artery is not visualized.

Aneurysms usually arise from the arteries about the circle of Willis. They appear as small or large rounded areas. They may fill completely with contrast medium or be partially or totally filled with a clot and thus occasionally are not visualized.

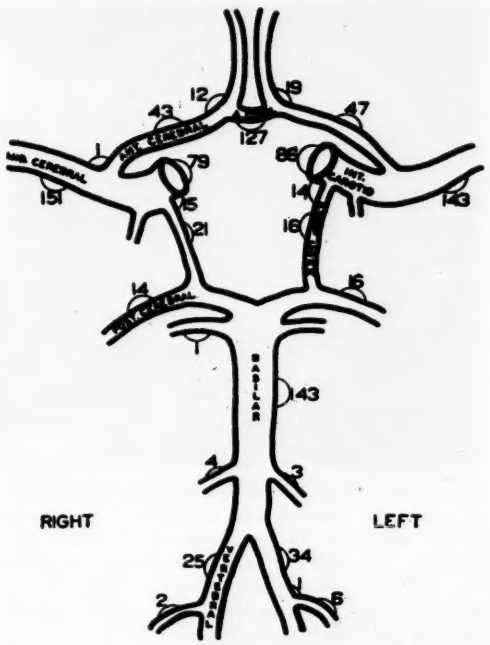

Figure 3 Arch. Neurol. & Psychiat. McDonald and Korb, (Aug.) 1939.
This shows the location of 1,023 aneurysms about the circle of Willis. It can be seen that the majority occur in branches of the internal carotid artery.

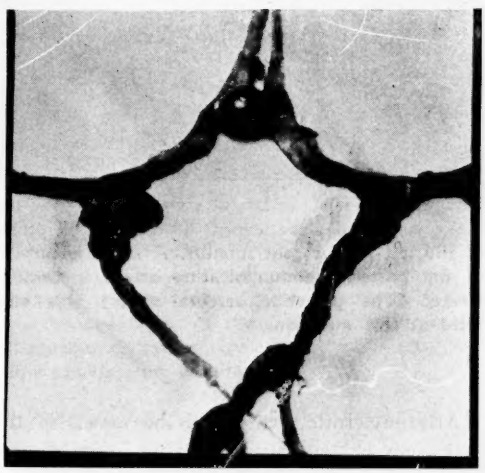

Figure 4 This demonstrates a typical aneurysm at a common location, the anterior communicating artery.

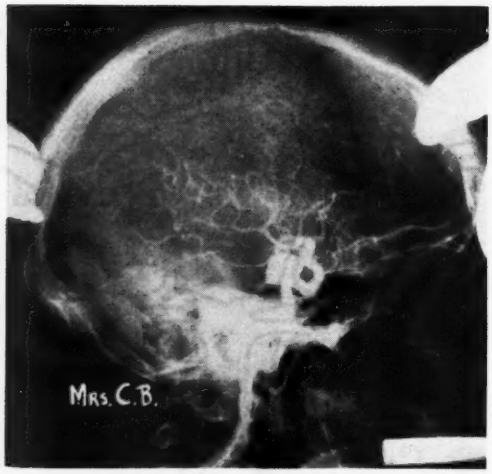

Figure 5a. This is the lateral arteriogram on a 63 year old woman who experienced a drooping eyelid and pain in the forehead of three days' duration. It shows a round aneurysm filled from the internal carotid artery in the region of the sella turcica. The anterior and middle cerebral arteries are filled normally.

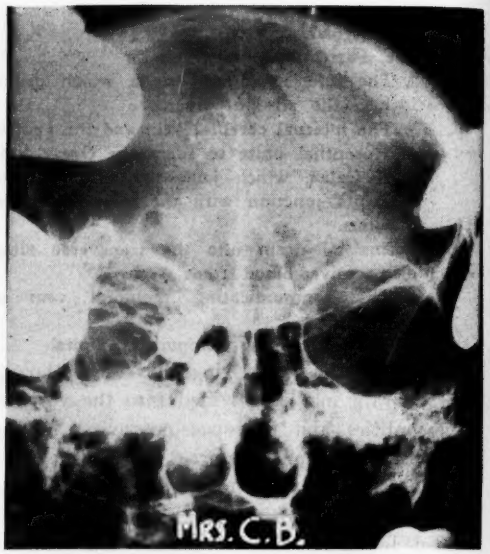

Figure 5b. This is the A-P view made on the same day and demonstrates the aneurysm just lateral to the sella.

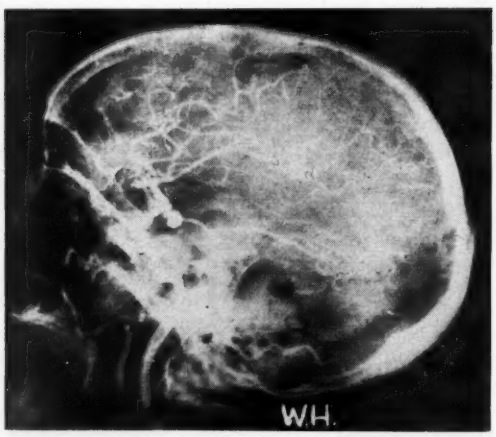

Figure 6. This is the lateral view of a 51 year old male who had experienced headache and ptosis of the left lid for four months. A small aneurysm of the posterior communicating artery is demonstrated. The posterior cerebral artery was also filled at this injection.

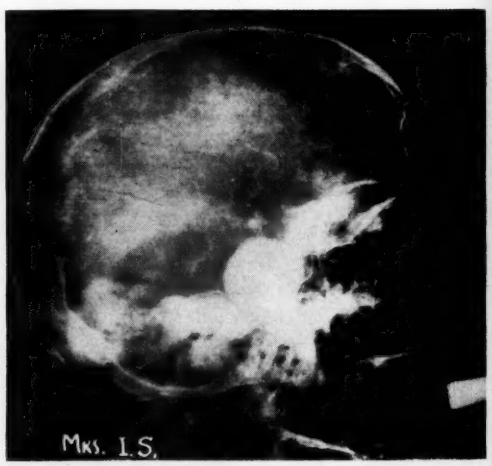

Figure 7. This shows a giant aneurysm of the internal carotid artery in a 63 year old female. On the plain film erosion of the bones about the sella had been demonstrated. Occasionally these aneurysms may also be visualized on plain films if the wall is calcified.

Arteriosclerotic changes in the vessels of the brain may be generalized showing irregular narrowing of the lumen or localized with narrowing which may be extensive enough to completely occlude the lumen.

Space-occupying lesions of the brain, such as tumors, cysts, abscesses or hematomas may cause the normally tortuous cerebral arteries and veins to be displaced, separated, thinned or straightened.

Figure 8. For the past two years this patient noticed blurring of vision, diplopia and dizziness. For the past three to four weeks there was transient numbness of the entire right side, lasting 10-15 minutes. Carotid arteriogram shows a narrowing at the junction of the internal and external carotid arteries.

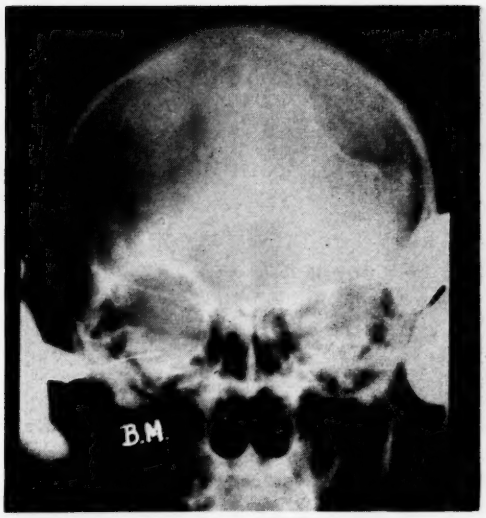

Figure 9. This shows the venous phase of a carotid injection of a 60 year old male who sustained a head injury 5 weeks previously. He had developed a right hemiparesis. The veins of the left parietal region are displaced medially and downward by an avascular mass. A hematoma was subsequently drained.

Figure 10. This is a lateral arteriogram of a patient with a 1½ year history of vertigo and pains in the left leg. This demonstrates a circumscribed tumor with typical "tumor stain" of a meningioma. At surgery this was a parasagittal meningioma. An anterior-posterior arteriogram should have been done to demonstrate the exact location and displacement of the vessels.

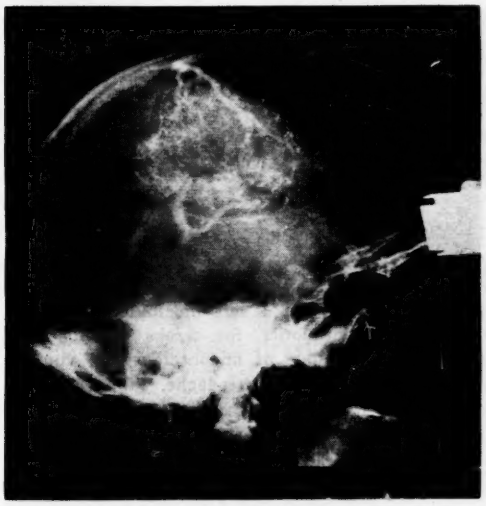

Figure 11. This is a patient with an 8 week history of dysphasia and right hemiparesis. It shows the venous phase of the lateral arteriogram, and demonstrates rather typically the vascularity within a glioblastoma multiforme.

Frontal lobe tumors displace the anterior cerebral artery across the midline and straighten out its tortuosity. The middle cerebral artery is displaced downward, and the carotid siphon is displaced downward and backward.

Parietal lobe tumors situated anteriorly push the anterior cerebral artery beyond the midline and displace the middle cerebral group downward. Parietal lobe tumors situated posteriorly push the pericallosal and callosomarginal arter-

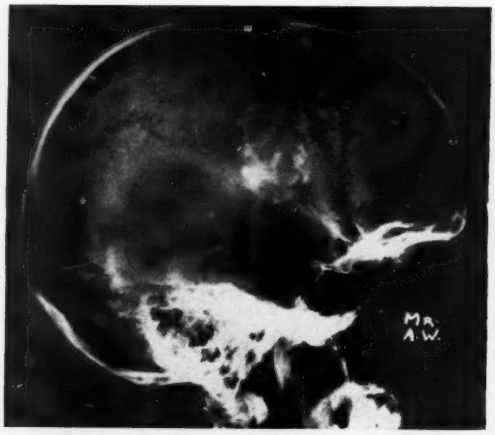

Figure 12a This plain film shows calcification of the right parietal region.

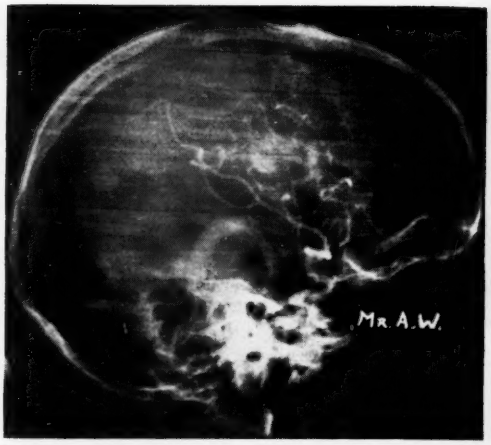

Figure 12b Right carotid arteriogram shows vessels coursing around the calcified area. A baseball sized oligodendroglioma was removed surgically from the right temporal lobe.

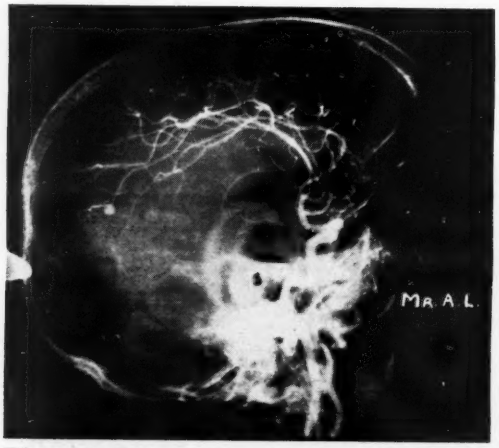

Figure 13 Patient had a left mastoidectomy and was placed on antibiotics. Six weeks later patient experienced an episode of unconsciousness, vomiting, dizziness, and severe headache. Film shows a brain abscess in the left parietal region, elevating the Sylvian fissure group of arteries.

ies across the midline.

Temporal lobe tumors elevate the middle cerebral group and straighten the carotid siphon.

Certain types of tumors may also be identified and localized by their internal blood supply.

Meningiomas are circumscribed tumors situated on the surface of the brain. They have a rich blood supply from the external and internal carotid arteries. Small brush-like arteries are visualized entering the tumor and forming capillary circulation within the meningioma. This has been called "tumor stain." The adjacent arteries are distended and curved around the tumors. The veins are short, large in calibre, and follow an abnormal course.

Glioblastomas are infiltrating neoplasms, relatively avascular and often show large areas of necrosis. They are surrounded by edematous brain. The blood vessels are poorly formed and small vessels within the tumor show fusiform and irregular dilatations. There is no uniform capillary opacity.

Astrocytomas usually are extensive growths, diffusely infiltrating the white matter of the brain. They cause stretching and spreading of the large cerebral arteries.

Cysts, hematomas, abscesses, and cholesteatomas are circumscribed and show an absence of vascularity. Other brain tumors and metastatic tumors may resemble any of the above.

We have not studied tumors of the posterior fossa by cerebral arteriography because we believe that more information can be obtained by air studies.

In conclusion, cerebral angiography proved a valuable and safe procedure in the localization and identification of tumors and vascular anomalies of the brain.

1753 W. Congress St.

Placebos —

A Panel On The Theoretical And Practical Implications of Their Use In Experimental And Clinical Medicine

EDMUND F. FOLEY, M.D., PROFESSOR OF MEDICINE.
ALAN K. ROSENWALD, PH.D., ASSOCIATE PROFESSOR OF PSYCHOLOGY.
CEDRIC M. SMITH, M.D., ASSISTANT PROFESSOR OF PHARMACOLOGY.

Doctor Samter: Placebos are ancient tools of medicine, but recent work on their potential has forced us to re-evaluate our simple concept that they represent inert controls for effective drugs. It might be well to begin today's Seminar with a definition, and to ask Doctor Smith: "What are placebos?"

Doctor Smith: The word "placebo" itself is the equivalent in Latin of the phrase "I will please". It may be defined as a chemical substance with negligible pharmacological activity which is given to the patient to please or comfort him. However, the use of the term has grown to include relatively inert substances (or such preparations as the solvent for an "active" agent) used as a "control" or "blank" in investigative procedures assessing an agent's effects. Another characteristic of a placebo is that its effects do not follow the dose-effect relationship which is characteristic for any given "active agent." Perhaps it would be advisable to limit the use of the word placebo to medication or procedures used to please or impress the patient and use such terms as "control," blank, "inert substance" to describe the controls in a study of drug effects.

It is not within the realm of this discussion to outline in detail experimental design, but I would like to mention that it is apparent that the more complex the study, or the experimental situation, the more difficult the assessment of the "control" response becomes. Certainly whenever the criteria of drug effect are subjective, the "double-blind" study is required to prevent any bias of the observer or subject from influencing the results.

Doctor Samter: Do you suggest that placebo is less important in tests of objective effects of drugs than in tests of subjective responses?

Doctor Smith: In all experiments in which the response is assessed by subjective evaluation, a placebo control is absolutely necessary.

Doctor Frenster: Are placebos required in animal experiments?

Doctor Smith: All experiments require controls. For example, when testing antiemetics, emesis is induced by such means as injecting apomorphine in dogs. As testing continues a conditioned reflex can become established so that simply the injection will cause emesis. Proper design, including random insertion of control injections of solvent only, prevents the conditioning from occurring.

Doctor Adrian M. Ostfeld, Assistant Professor of Preventive Medicine: We must also consider the "semi-objective" end point. Blood pressure readings seem objective. And yet, Shapiro of Southwestern Medical School reports of his enthusiasm for Veriloid where, in a space of six months, he found standard doses to give standard predictable blood pressure drops. He was then absent from the study a while and returned with his former enthusiasm replaced by depres-

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DEPARTMENT OF MEDICINE
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sion and a less avid approach to the study. Promptly, he saw the patient's blood pressure return to pre-treatment levels. Here, we see that the physician's attitude can sometimes influence objective findings too.

Doctor Smith: A certain variable percentage of individuals will "react" to administration of a placebo. The presence of these "placebo reactors" in a group of individuals may obscure the actual drug effects. When these individuals are eliminated in the analysis of the data, differences between drugs and between drug and control can be much more readily determined.

Doctor Walter S. Wood, Instructor in Medicine: In testing anti-hypertensive agents, Corcoran and his group have abandoned placebos. Not only did they find side effects making drug and placebo groups obvious to the observer, but also found comparison of drugs impossible without instructing their patients in possible side effects.

Doctor Samter: It is obvious then that placebo has a definite place and certain limitations in the evaluation of drugs. Doctor Foley, would you outline the role of placebo in therapy?

Doctor Foley: Consider the day lost on which one does not learn something. Today I learned that placebo means to please or placate, when since my high school latin days I was under the delusion that it meant "I believe." Yet, I was not too wrong because placation implies faith, trust and belief.

Doctor Smith has succinctly defined placebo and has indicated the areas in which it is employed. In clinical medicine, placebos are used in an attempt to establish a degree of equanimity in the patient, and to this end such a therapeutic device is directed toward forming in the patient a feeling of significance, a measure of safety, a sense of security and of recognition. The mode of action is by suggestion, and the degree of success is reflected in the depth of the belief developed in the patient. Placebo therapy is literally a form of faith healing which strengthens the patient-physician relationship.

The elements involved in the employment of placebo therapy are the patient, the physician, the place, the devices and the public.

The physician is the personal representative of the medical profession and is expected to bring to the patient's bedside all the knowledge, skills and abilities of medicine. These he is supposed to display by what is known as his manner (bedside manner—dusting off an old cliche) for the patient's scrutiny. The result of this scrutiny whether it is momentary or over a period of time results in trust and belief of the patient in the doctor, a basic requirement. The degree of confidence which the doctor can create, the amount of reassurance which he can inspire vastly influences the success of therapy. A broken leg or a broken heart will heal quicker, more comfortably and with less aftermath in the hands of a skillful artisan rather than a trite technician.

The patient's willingness to seek help means his recognition of something wrong and his want of help and reassurance. As he is being examined, he examines the doctor with a trusting or skeptical eye — a placebo reactor or non-reactor. In response to the doctor's opening question, "What seems to be your trouble?" the defiant answer, "That's for you to find out," or the endless recitation of intimate trivia read from a yard long foolscap from which the physician must ferret out significant clews of an elusive malady or identify them as the result of a disordered personality, again distinguishes the non-reactor from the reactor.

The place — compare the environment of a busy doctor's office over the corner drug store with a waiting room crowded with restless patients and wailing infants, an examination under pressure interrupted by a jangling telephone: compare this with the careful and leisurely examination in the quiet dignity of the Research and Educational Hospital when the patient has the benefit of searching scrutiny from all angles and through all orifices.

Public opinion: Because of the spectacular advancement of medical know-how and the dissemination of the success to the public, confidence in the professor has been awakened. Formerly, the chief therapy was placebo therapy, administered by the frocked and bearded gentleman who arrived via the horse and buggy. Now public opinion expects and demands complete examinations, and aggressive therapy as outlined in the medical gossip columns, Readers Digest, television and by word of mouth. Gone is the ritualistic garb and bag, accepted is the younger man equipped with the latest methods, sport clothes, crew cut, pipe and Jaguar.

Conditions for the use of placebos:

1. Time gaining — here placebos are used in the form of the tincture of patience to placate the patient while diagnostic procedures are being carried out which would lead to a definitive diagnosis and specific theapeutic indications or to placate the patient while a malady with a known course runs itself out.

Some patients depend on their crutch even after their broken leg has healed, some cannot give up their wrist bands, sacroiliac belt, and jock straps. These devices placate them. The factor of dependence requires placebo therapy or brutal frankness.

One of the means of withdrawing a procedure to which a patient has become addicted whether narcotic or physics is substitution of an inert substance.

In what forms do our placebos come?

1. *Oral* — the former nauseating mixtures such as tincture of Valerian have given way to polka dot pills and capsules, so pretty that they resemble gems. They must have a good effect.

2. *"Shots"* — iron, "steel", liver, "hot flashes" or "change of life."

3. *Devices* — diathermy, red lights, blue lights, supporters, and impression machinery.

4. *Surgical* — facelifting and other cosmetic procedures.

5. *Expensive, disciplinary regimen* — after spending thousands of dollars on fancy trips to tropical shores where he may eat only eel meat, our patient *has* to feel better.

6. *Spectacular* — procedures instituted with "Pomp & Circumstance" and carried out with all the ritual of a three ring circus must make a weighty impression on the patient.

All these procedures placate the patient and form the basis for placebo therapy.

Doctor Samter: Then, you widen the scope of placebo to include many impressive procedures as long as they are used without specific indication? It is, perhaps, only a question of semantics, but Doctor Smith included the term inert in his definition of placebo.

Doctor Foley: Your question requires a redefinition of "inert." We have placebos which the physician knows are inert, but the patient does not; but we have also agents now assumed to be effective which will, in ten years prove to have been only placebos. As an answer, I might say that I use placebo — inert or not — to help the patient "save face."

Doctor William R. Best, Assistant Professor of Medicine: In a patient with rheumatoid arthritis, should we inject an inert substance such as B_{12} rather than potentially toxic gold salts?

Doctor Foley: Yes, particularly since I suspect that gold itself is not much more than placebo.

Doctor Nicholas J. Cotsonas, Jr., Assistant Professor of Medicine: Doctor Foley, are you using your inert substance to save time; or do you imply that this act of injection is in itself beneficial in the overall course of therapy?

Doctor Foley: It helps.

Doctor Ostfeld: Knowing the patient, allows us to tailor our therapy and select the right placebo. The sophisticate requires entirely different overall management from the dock hand.

Doctor Harry A. Bliss; Assistant Professor of Medicine: It has been my feeling that we can often obviate the need for placebo by carefully explaining the functional component of disease to an intelligent patient. Is the less intelligent patient a better subject for treatment with long-term placebos?

Doctor Foley: In my experience, the patient's intellect has little, if any influence on the therapeutic results of either placebo or explanation.

Doctor Samter: Doctor Foley has classified his patients in several groups which may or may not respond to placebos. Doctor Rosenwald, can you as a psychologist offer any explanation for this variation in response; and, perhaps, suggest any means to predict it?

Doctor Rosenwald: First, let me say that in reviewing the literature on this subject, I was impressed by the writers' need to define "placebo." I am surprised by this undue concern over the semantics of the word which seems to me tangential to the current problems of placebo therapy. I also believe that in an ideal placebo study, the physician conducting the study should not know whether any of the agents being used is placebo. His foreknowledge should be no greater than that of the patient being examined.

Beecher found that about one-third of the population will react to placebo as though it were a potent drug. He also noted that placebo effect is greater if the patient is more distressed.

Stewart Wolf, however, noted that placebo effect may be great (at times greater than with the specific drug) when the patient is not tense, but is psychologically predisposed to receive treatment and if the patient is distressed about something or other he may be non-reactive to placebo.

Lasagna studied 160-plus patients with postoperative pain and isolated 27 patients from this group who either always or never reacted to placebo. Eleven patients were "reactors" and sixteen were "non-reactors." The non-reactor may even have symptoms exacerbated by placebo or by potent drug as well. In his study of these two groups, Lasagna found the reactors had less formal education, greater happiness with hospital experiences, more co-operation with procedures, were greater conversationalists, and had more somatic symptoms. They were more anxious and presumably less overtly hostile than the non-reactors. Their anxiety was diverted to somatic complaints. The number of Rorschach responses was considerably below average for both groups whose intelligence level was inferred as average. The non-reactors gave fewest responses; there are hints in the data which support the inference that these non-reactors were depressed and could not "afford" relief from pain.

In conducting any investigation to determine propensity for reaction to placebo therapy, one would first of all use the double-blind techniques. Multiple placebos of varying size, color, and route of administration would be used to randomize the method of administration of placebo and their various forms. The procedures of placebo administration, verbal comments to patient and finally, observation of response, would all need some degree of standardization. The physician-observer would then separate the placebo reactors and non-reactors by their clinical reactions to drug and placebo. The psychologist would attempt on the basis of the psychological test only and without benefit of the clinical reactions to separate the reactors from the non-reactors. If discrimination between the two groups proves possible, the factors in psychological test performance which appear to differentiate reactor from non-reactor could be validated by a new study which would seek to predict or isolate the reactors from non-reactors to placebo and potent drug. If, on the other hand, discrimination appears unsuccessful, the psychologist could review both sets of data, the clinical and psychological, to seek new criteria for prediction.

I am certain that the difficulties of conducting such experiments conclusively are apparent, but the suggestions represent, I believe, a nucleus for the study of a placebo person.

Doctor Samter: Doctor Rosenwald, you have at the same time enlightened us and complicated our problems. We must use placebo in our studies, but in order to make our conclusions acceptable, we must differentiate reactor from non-reactor. Is our own knowledge of the placebo person sufficiently secure to be included in our investigative program; or can we still afford to ignore it in our current studies?

Doctor Rosenwald: I think not. On the experimental side, your conclusions will be criticized unless you distinguish between the two groups. On the practical side, the advantage is obvious. Placebos will be given in medical practice and there is, I feel, real value in being able to predict beforehand which of your patients will respond to placebo therapy.

Doctor Frenster: The rational place for placebos in investigation has been established beyond doubt. I do not fully understand the rationale of placebo in the therapy of functional disease, Doctor Foley.

Doctor Foley: Functional disease indicates that the patient is aware of a change in function of some organ this awareness can be strongly influenced by placebo therapy. If at the base of it, however, we find some outside stimulus such as a nagging mother-in-law, we need more than a pretty pill. We cannot cure without a diagnosis. I am old-fashioned enough to follow James' philosophy. It isn't fear which gives tremor, dry mouth, and palpitation. The patient becomes frightened only when he experiences the altered function: he needs medication.

Doctor Wood: Doctor Samter, most residents here work some time in your Allergy Clinic and do hundreds of skin tests. Is this placebo?

Doctor Samter: It is getting late, and I refuse to be baited.

Doctor Smith: Doctor Foley, won't you comment on the danger of placebo therapy?

Doctor Foley: It might sound too simple, but complacency and smugness which substitute placebo where effective therapy is needed are the only dangers.

Clinical Lesions of the Oculomotor Nerve

JOSEPH E. ALFANO, M.D., CHICAGO

THE oculomotor nerve arises from the oculomotor nuclei which comprise two large masses of cells, forming a V, lying in the central gray matter in the mesencephalon below the superior calliculus, beneath the acqueduct of Sylvius.

The nucleus is 5 to 6 mm. long. At the extreme anterior end of the nuclei is another paired group of cells of smaller size known as the Edinger-Westphal nuclei. A single group of cells lies in the middle of the V and is know as Perlia's nucleus.

From the experimental and certain clinical evidence available the frontal portions of the oculomotor nuclei function in elevating the eyes together with the lids, and that the caudal parts of the nuclei are related to downward movements of the eyes. The mid-portion of the nuclei is connected with the medial recti and has to do with convergence. The anterior portion of the nuclear column is supplied by the posterior cerebral and the posterior portion by the basilar artery.

From the third nerve nucleus, the fibers run forward through the posterior longitudinal bundle, the tegmentum, the red nucleus, and the substantia nigia to emerge from the surface of the brain in the oculomotor groove, on the medial side of the cerebral peduncle. It then passes around the peduncle going from the medial to the lateral side between the posterior cerebral and superior cerebellar arteries, to perforate the dura at the level of the posterior clinoid process where it lies medial to the rostral portion of the temporal lobe. After piercing the dura, it comes to lie in the paratrigeminal fossa, in close relation to the internal carotid artery and the gasserian ganglion of the fifth nerve.

From Dept. of Ophthalmology, Northwestern University Medical School, Chicago

Presented before the Section on Eye, Ear, Nose and Throat, 116th Illinois State Medical Society Annual Meeting, Chicago, May 16, 1956.

The nerve then travels forward in the lateral wall of the cavernous sinus where it lies in close relationship with the internal carotid artery and the fourth, fifth and sixth nerves. It then enters the orbit through the superior orbital fissure, thereafter dividing into a superior and inferior division. The superior division supplies the levator palpebrae superior and the superior rectus, while the inferior division sends branches to the medial and inferior recti and the inferior oblique muscles. That branch of the inferior division supplying the inferior oblique muscle also gives off the preganglionic motor root to the ciliary ganglion.

Variations in the nerve, for the most part, consist of unusual branches which at times seemingly replace one of the other orbital nerves. Thus, the third nerve may give off a branch to the external rectus in addition to or in exclusion of it or may give off a filament to the superior oblique muscle. Minor deviations in the course of the third nerve have been recorded.

SITE OF LESION

Lesions of the oculomotor nerve may occur at any one of the following locations in the course of the nerve:

I. Nuclear
II. Intra-medullary
  a. at level of red nucleus
  b. at level of pyramidal tract
III. Inter-penduncular fossa
IV. Between posterior cerebral and superior cerebellar arteries
V. Beneath temporal lobe
VI. Para-trigeminal fossa
VII. Cavernous sinus
VIII. Superior orbital fissure
IX. Apex of orbit

External oculomotor nerve ophthalmoplegia is characterized by involvement of all of the extra-ocular muscles (levator of lid; the superior, inferior and medial recti; and inferior ob-

lique). The internal (pupillary) ocular musculature is spared. A patient with external ophthalmoplegia displays ptosis and when the lid is elevated, the eye is divergent and the globe cannot be elevated, depressed, or adducted.

Internal oculomotor ophthalmoplegia indicates involvement of the internal (pupillary) ocular musculature, with no involvement of the extra-ocular muscles supplied by the third nerve (elevator of lid; inferior oblique; and superior, inferior, and medial recti). These patients demonstrate only a dilated pupil that reacts neither to light nor to accommodation, but the affected eye can be moved in all directions.

A complete oculomotor nerve opthalmoplegia is a combination of external and internal ophthalmoplegia. These patients demonstrate ptosis and when the lid is elevated the affected eye is divergent, the pupil is dilated and reacts neither to light nor accommodation, and the affected eye cannot be elevated, depressed, or adducted.

NUCLEAR LESIONS

Nuclear lesions may be of vascular origin such as in hypertension, arteriosclerosis, diabetes, blood dyserasias, and traumatic hemorrhages; of inflammatory origin such as in encephalitis, poliomyelitis, meningitis, tetanus, diphtheria, and botulism; degenerative; toxic; or neoplastic such as glioma of the midbrain. Congenital nuclear aplasias, either partial or total, unilateral or bilateral, are also known to occur.

Nuclear lesions are characterized by their bilaterality and irregularity and the presence of diplopia. They are capable of affecting all the extra-ocular muscles without producing internal ophthalmoplegia (dilated pupil), whereas peripheral lesions always produce some degree of internal ophthalmoplegia as well.

Nuclear lesions due to trauma usually are the result of petechial hemorrhages due to obstruction of blood flow in the vena nervosum. Later, small foci of necrosis may develop in the floor of the fourth ventricle or deeper in the pons. Sometimes, after ophthalmoplegia has cleared, fatal apoplectic hemorrhage from such a focus can occur.

The etiology of congenital aplasia of the oculomotor is not known but the tendency for it to appear in several members of a family indicates that defects of development or intrauterine degenerative processes play the largest role. These congenital ophthalmoplegias are present at birth, may be unilateral or bilateral, and often are associated with other malformations and peculiarities of development. These lesions show a tendency to remain stationary throughout life.

The most common example of an oculomotor nerve defect is congenital ptosis. In most instances, the remaining oculomotor muscles are not affected, although in some cases, the superior rectus is defective. Complete paralysis of all the muscles innervated by the third nerve on one or both sides may be present from birth. Bradburn has reported three cases of congenital aplasia of the third nerve nucleus which occurred in five generations of a single family.

Paralysis of the third nerve has been found in association with anomalous development of the right subclavian artery, which in these cases arises from the thoracic aorta and courses behind the esophagus, causing compression and dysphagia.

OCULOMOTOR NEURITIS

Once the third nerve has emerged from the nucleus, it may be involved by a neuritic process at any point, from the nucleus to the apex of the orbit, by such conditions as produce polyneuritis including alcohol, lead, arsenic, carbon monoxide, diabetes, herpes zoster, and vitamin B deficiency.

INTRA-MEDULLARY LESIONS

Lesions of the third nerve occurring in the substance of the midbrain usually are of vascular origin, although brain stem neoplasms, multiple sclerosis, and tabes dorsalis also have been implicated at various times. A lesion at this level is characterized by involvement of all the external ocular muscles (superior, inferior, medial interior rectus, and inferior oblique) excepting the lateral rectus and superior oblique, plus involvement of the pupillomotor fibers giving the picture of an ipsilateral ptosis; when the lid is elevated, the eye is found to be abducted and the pupil dilated and fixed. The patient is unable to elevate, depress, or adduct the affected globe. In addition lesions in the area are characterized by the involvement of adjacent structures in the brain stem, either the red nucleus or the pyramidal tract.

Involvement of the red nucleus gives rise to the syndrome of Benedick, characterized by an ipsilateral oculomotor nerve ophthalmoplegia

with a contra-lateral hemi-tremor. If the lateral lemniscus also is affected, there may be a contralateral hemi-anesthesia.

Involvement of the pyramidal tract gives rise to the syndrome of Weber, which is characterized by an ipsilateral oculomotor nerve ophthalmoplegia associated with a contralateral hemiplegia.

INTERPEDUNCULAR FOSSA

This lesion occurs at the point of exit of the oculomotor nerves from the substance of the midbrain. Lesions in this area result from involvement of the nerves by exudates and adhesions following tuberculous, lues, or purulent meningitis pooled in the recess formed by the peduncles. In this location, involvement of the nerves usually is bilateral and irregular with associated bilateral and irregular involvement of the pyramidal tracts and other cranial nerves, particularly the 5th, 6th, 7th and 8th.

Compression of the oculomotor nerve as it passes around the cerebral peduncle between the posterior cerebral and superior cerebellar artery is thought by some to cause involvement of the third nerve in the syndrome of ophthalmoplegisc migraine.

TEMPORAL LOBE LESIONS

Involvement of the oculomotor nerve as it lies medial to the rostral portion of the temporal lobe is not uncommon and accounts for dilatation of the ipsilateral pupil in cases of subdural hematomas. Large tumors of the temporal lobe may press upon the nerve but more commonly herniation of the medial portion of the temporal lobe through the incisura of the tentorium, as a result of increased pressure in the supratentorial or intracranial cavity impinges upon the third nerve, giving rise to an ipsilateral dilated pupil and, in severe cases, to complete third nerve ophthalmoplegia.

PARATRIGEMINAL LESIONS

In this area, the oculomotor nerve is most frequently affected. Involvement is characteristic of sacular aneurysms of the internal carotid arteries. Sacular aneurysms of the internal carotid artery usually arise from the posterior wall of this vessel and project posteriorly, coming to rest in the paratrigeminal fossa containing the oculomotor nerve and the Gasserian ganglion of the trigeminal nerve. By coming to lie upon these structures, these aneurysms give rise to the paratrigeminal syndrome consisting of pain (trigeminal neuralgia) in or behind the eye, oculomotor nerve ophthalmoplegia, and diminished or absent corneal sensation due to involvement of theophthalmic division of the trigeminal nerve. In approximately 15% of all cases, characteristic curved-linear suprasellar calcifications may be seen on radiographic examination of the skull. Arteriography usually establishes the diagnosis.

In this location, a similar picture as that just described may be produced by tumor of the Gasserian ganglion, metastatic carcinoma to the region of the Gasserian ganglion, nasopharyngeal carcinoma that has eroded the base of the skull into this area, and meningioma of the petrous portion of the temporal bone.

Tumors of the Gasserian ganglion can be ruled out only by exploratory craniotomy. Metastatic carcinomas usually produce radiographic evidence of destruction of the base of the skull, while petrous ridge meningiomas usually give rise to X-ray changes in the petrous portion of the temporal bone. In nasopharyngeal carcinoma that has eroded into the base of the skull, oculomotor nerve palsy almost never exists alone. There usually is involvement of the 9th to the 12th cranial nerves.

CAVERNOUS SINUS LESIONS

Involvement of the oculomotor nerve in the cavernous sinus may be due to a cavernous sinus thrombus or it may be on an infectious basis; unruptured sacular aneurysm of the cavernous portion of the internal carotid artery; carotid artery cavernous sinus fistula resulting from a spontaneous or traumatic rupture of a normal or aneurysmal internal carotid; or primary or secondary tumors in the cavernous sinus.

In the cavernous sinus, the oculomotor nerve is in close relationship with the 4th to 6th and the ophthalmic and maxillary divisions of the trigeminal nerve. Because of this, in the case of aneurysms, as the aneurysm expands and fills the cavernous sinus, it compresses the third, fourth, sixth, and two divisions of the trigeminal. As a result, involvement of the third nerve in this position frequently is associated with a 4th, 5th and 6th nerve ophthalmoplegia as well. This gives the following picture of pain, in and around the ipsilateral orbit and an altered sensa-

tion in the region of distribution of the first of the two divisions of the trigeminal nerve. In addition, the ophthalmoplegia gives the patient ptosis and when the lid is elevated, the eye is in the straight forward rather than the divergent position, the pupil is dilated and fixed, and the patient is unable to elevate, depress, adduct, or abduct the affected globe. Arteriography usually establishes the correct diagnosis.

Involvement of the oculomotor nerve by a carotid artery-cavernous sinus fistula produces a somewhat similar picture plus the findings of a pulsating exophthalmos with edema and engorgement of lids and conjunctiva. Due to the communication of the cavernous sinuses by the anterior and posterior inter-cavernous sinuses, in this condition, the opposite oculomotor nerves may be involved as well.

SUPERIOR ORBITAL FISSURE

Involvement of the oculomotor nerve as it passes through the superior orbital fissure may be secondary to a suppurative process in the adjacent sinuses, fracture of the orbit or base of the skull extending into the fissure, or by the extension of a tumor from the paranasal sinuses.

Because of the association of the third nerve in the superior orbital fissure with the 4th, 6th and ophthalmic and maxillary divisions of the 5th nerve, occulomotor nerve ophthalmoplegia in this area frequently shows involvement of these nerves as well. In this region, due to involvement of the sympathetic fibers to the pupil as well, the pupil may be relatively miotic and fixed rather than dilated and fixed. History of trauma or sinusitis plus X-ray examination of the base of the skull, orbits and sinuses, will establish the proper diagnosis.

APICAL ORBITAL SYNDROME

The oculomotor nerve may be involved in the apex of the orbit by traumatic hemorrhage or orbital abscess or tumor. The apical orbital syndrome is characterized by oculomotor ophthalmoplegia, either complete or internal or external, plus a variable degree of exophthalmos, and edema or atrophy of the optic nerve head. History, plus X-rays of the optic foramen and orbit help resolve the diagnosis.

DIFFERENTIAL DIAGNOSIS

Oculomotor nerve ophthalmoplegia must be differentiated from myasthenia gravis and chronic progressive ophthalmoplegia externa.

Myasthenia gravis, which is characterized by excessive fatigability of striated muscle is due to a deficient transmission of the nerve impulses to the muscle fiber. In its commonest form the patient has diplopia and ptosis, usually bilateral. Involvement of the remaining extraocular muscles follows no definite rule and while extraocular muscle palsies are fleeting at first, as the disease progresses, external ophthalmoplegia becomes complete and permanent. The ocular muscle paralyses are most marked in the evening or after excessive or fatiguing tasks. Diagnosis may be made by the history of diurnal variation of ptosis, production or augmentation of ptosis by fatiguing the levator, and the dramatic relief of ptosis following the injection of 1-2 c.c. of prostigmine.

Chronic progressive ophthalmoplegia externa, produces bilateral progressive ophthalmoplegia with sparing of the intraocular musculature. Whether this condition is primarily ocular muscle abiotrophy or a nuclear degeneration remains unanswered. The condition, which is heredofamiliae, appears usually in early life and is progressive but offers no danger to life. Ptosis without diplopia is one of the earliest manifestations of this condition, and as the condition progresses the extraocular muscles of both eyes become involved with sparing of the pupillary muscles. There is no diurnal variation of ptosis and the injection of prostigmine is ineffectual.

SUMMARY

The anatomy and course of the oculomotor nerve are reviewed. The site of lesions of this nerve and their diagnostic features are presented. Differential diagnosis from myasthenia gravis and chronic progressive ophthalmoplegia externa is discusssed.

"Old Doc," First Auto Test Driver

JOHN A. MIRT, CHICAGO

WHEN in 1901, the late Dr. Charles H. Mayo, noted surgeon of Rochester, Minn., in a letter to the editor of The Journal of the American Medical Association reviewed the relative merits of three types of a new-fangled "horseless carriage" he set off a chain reaction.

Dr. Mayo, who along with his brother, the late Dr. William J. Mayo, had founded the Mayo Clinic, was then the owner of a "steam buggy." He had operated gasoline-driven and electrically propelled machines as well. In his letter, he reported the advantages and disadvantages of each type, in answer to a previous request from a "Dr. H. S. J." in Lead, S.D.

The mechanical keenness of Dr. Mayo equalled his surgical skill for he concluded: "Steam is the most sure power, yet the rapid advancement of gasoline engines will undoubtedly make them the most convenient in another year."

The letter elicited great interest in the new "contraption" among his medical colleagues. In the seven years to follow, the family doctor collectively was to become the test driver for the automobile industry, then in its infancy and subject to growing pains and the ills of improper nutrition. "Old Doc" was to report his "clinical" and "autopsy" findings in mechanical and scientific detail for the benefit of future motor car engineering and construction.

The Indianapolis Motor Speedway as a test of stamina for engines and accessories was not to come upon the scene until 1911. There were no proving grounds in those early days. No group was in a better position than the 100,000 physicians of the nation to give the automobile its needed, thorough workout, and to find its mechanical defects.

To them, rapidity and certainty of transportation were material and practical considerations. The long time spent in travel was an economic waste. In some instances, the speed with which a physician reached his patient was a factor between life and death. So, he took up the new automobile not for pleasure but for professional—and competitive—reasons.

Manufacturers realized that there could be no greater testimonial for their products than to have the family doctor make his calls in city and country by auto. Promotion was directed at the medical profession. Physicians gradually switched from horses.

"Doc" guided his automobile over city and country, on good roads and bad, through mud, snow, sand and clay, up hill and down, day and night, winter and summer under every weather and road condition imaginable. He went out when other car owners dared not.

When the mechanical "bugs" of his machine showed up—and this happened much too frequently—he had no one to turn to for help. Repair shops were few and far between. Moreover, mechanics were of little help because of lack of standardization of parts and designs. Each model of car required a particular knowledge of its workings. So, he had to "get out and get under." With the aid of a few choice, non-medical words, he did the repairing himself.

It became evident that medical and mechanical emergencies were Siamese twins. In order to deal with both, the physician learned the mechanics of an automobile the hard way. He pored over technical books dealing with the principles of gasoline and steam engines, electric motors, fuels, storage batteries and other accessories. He tinkered with a car in a stall in an old stable. In time, he came to know the anatomy of his automobile as well as that of his patients.

The Journal carried spasmodic and individual reports from physicians on their experiences with the new form of transportation. By 1906, the automobile was recognized as an important potential factor in better medical care. Yet, manufacturers were not far along the way to solving their mechanical problems.

On March 24 of that year, the Journal editorially took cognizance of the uncertainty which

existed. It had compiled a large number of experience reports, but wanted more.

"To no one class of people is the automobile of more practical importance as a business proposition than to physicians," the medical publication said. "Whether in the city or country, the physician needs a means of quickly, safely and surely reaching his patients—and of getting home again."

It asked for reports on both sides of the subject—"experiences and difficulties connected with the machine as compared with the horse, the type of car most practical, technical points connected with gears, transmissions, cylinders, fuel, cooling apparatus, tires, etc."

On April 21, 1906, 36 pages were devoted to the driving experiences and suggestions of 68 physicians. "Clinical" and "autopsy" findings were reported in great detail. "Treatments" were prescribed. Advice was g i v e n on how to avoid "symptoms" of a disorder. "Systemic weaknesses" were revealed, pointing the way to future engineering designing. The pros and cons of every type of power, transmission, electrical system, cooling method, wheel and tire were presented. Each accessory had its proponents, who gave sound mechanical reasons for their opinions. The argument was heated.

Typical of the detail in specifications was the recommendation of Dr. C. E. Rogers, Montevideo, Minn. Based on ownership of three cars and travel twice the distance around the world, he said: "The engine should be multiple cylinders; gasoline is best and cheapest fuel; sliding gear transmission; drive of the shaft pattern; cooling system, water; half elliptical springs; double tube tires; storage battery for spark and ignition; acetylene lamps."

Solid tires worked best on mud roads, according to Dr. Eugene F. Talbott, Grinnell, Iowa. The pneumatic tire was "too wide to go into the rut made by wagon wheels."

He had many supporters because pneumatic tires in those days were in disfavor despite their easier riding qualities. Flat tires were too common occurrences to suit physicians on a hurry call.

Only on one point was there agreement. The physician had to be an auto mechanic as well as a medical man.

A purchase should not be made unless the physician also undergoes training in gas engineering, Dr. C. P. Thomas, Spokane, wrote. He added: "He should know the mechanics of his car as well as he knows his surgical instruments." He advised his colleagues to "get on the band wagon" because the automobile was here to stay.

"Study and understand your car as you do the human body," Dr. Rolandus G. Walker, Denver, recommended. "Learn to diagnose your trouble when it arises. Understand the physiology of your engine. Apply the treatment as when you prescribe drugs in your daily practice."

When Dr. F. J. Bomberger, Mapleton, Minn., had trouble on the road and was asked: "What's bothering you, Doc?" his reply was: "My deplorable ignorance." Then he took up a study of gasoline engines and his troubles ceased.

From Dr. William Thompson, Chicago, came the sage advice concerning autos: "Study its anatomy and physiology, and all the pathology that you can acquire."

Dr. Harry S. Kiskadden, Detroit, urged physicians to be able to tell the "pulse and respiration" of their cars. The automobile of Dr. W. P. Hartford, Cassville, Wis., was subject to "attacks of indigestion" and sometimes was suspected of "malingering."

Although the "three-wheeler" purchased in 1901 by Dr. H. C. Martin, Springfield, Mass., "coughed and coughed" for six years, it was good for 50,000 miles. The secret: He spent 30 to 45 minutes each morning checking "the whole wagon."

Irked by jibes when a breakdown occurred, Dr. Charles Moir, Louisville, donned overalls and "made a thorough dissection of his machine." He reported: "Result: No more street scenes, as I can get started before the crowd gets around. As for a vocabulary of interjaculatory speech, I do not need it rewritten, and I am now going to teach a Sunday school."

Dr. F. M. Crain, Redfield, S.D., was prophetic when he wrote: "One of the beneficial results of the use of the automobile will be its effect on the good roads movement."

In contributing to the symposium on comparative cost of automobile and horse, Dr. Charles P. Sylvester, Dorchester, Mass., gave a report which would do credit to a certified public accountant. Expenses listed included a $5.25 item for "loss of eyeglass while raising a 30-mile breeze in the woods" and 10 cents carfare

when his automobile had to be left behind after a breakdown. Charges against horse upkeep included eight cents for sugar and 50 cents for gin—not explained. The automobile came out $110.45 cheaper over seven months.

He was analytical in other respects. He kept tab of his pulse beats and found the tension of long drives increased his rate by six beats per minute. "The public's probably went higher," he added.

Dr. C. B. Miller, Helena, Mont., was a skeptic on his first trip to see a patient six miles out in the country. He had his horse and buggy follow him. The caution paid off. On the way back, he experienced carburetor trouble. Eventually, he mastered the intricacies of the vehicle and became a booster.

"The traumatism of the conjunctiva in motoring is very severe and one should always wear goggles," Dr. Joseph A. Robertson, New York, advised. He discussed in mechanical detail the relative merits of various types of accessories.

But not all reports were favorable to the new industry. A sad experience was related by Dr. Sterling Gibson, Thomson, Ga. He thought by buying an automobile he could dispose of one of his two horses. But he reported: "I found I would have to get a third horse."

Experience with an 8-h.p., one cylinder, water-cooled gasoline runabout in country practice for two seasons caused Dr. F. A. Swezey, Wakonda, S.D., to report: "I will never buy another."

Subsequent letters to the editor showed that physicians all over the country appreciated this special feature. One point made was that the experiences would awaken manufacturers to the problems of motoring, especially in cases where certainty of performance under adverse conditions was of paramount importance.

From Dr. J. D. Southard, Fort Smith, Ark., came the prediction: "This edition of The Journal will increase the sale of automobiles more than anything that has ever happened."

Producers apparently were of the same mind because several were represented at a commercial exhibit alongside surgical supplies, pharmaceuticals and other doctors' needs at the annual meeting of the American Medical Association in Boston in June, 1906. They experienced an unusual professional interest in "motor cars adapted to the physicians' use."

By the fall of 1907, physicians from all parts of the country were asking for more information. The Journal called for reports on one, two and four-cylinder machines both as to efficiency and cost of operations.

It wanted to know the comparative value of large and small cars; the relative usefulness of the automobile on various kinds of roads—loam, clay, sand, etc., hilly and level; the methods used to prevent skidding; the relative merits of air-cooled and water-cooled cars; the anti-freezing material used; the preference, whether for electric, steam or gasoline automobiles, and why.

"Experiences, not theories are wanted," The Journal emphasized.

On March 7, 1908, in a number which carried articles on "Subphrenic Abscesses as a Condition of Appendicitis," and "Exophthalmic Goiter," 27 pages were devoted to "The Physician's Automobile." More than 100 reports were contributed by physicians.

Illustrations showed physicians' cars sloshing through water holes on country roads, pushing through snow drifts or bumping over rock-littered roads; cars with tops up, tops rolled back, no tops; drivers in dusters, caps and goggles; machines with high wheels or low wheels; cars with pneumatic tires or solid tires.

Usually, the physician was pictured at the wheel. One illustration showed him in the back seat while his wife and daughter sat up front.

Operating expenses were reported in great detail. Physicians gave the relative costs of keeping a "hay burner" and a "gasoline burner." Which mode of transportation the figures favored depended largely on repair expenses.

Some physicians found it cheaper to operate an automobile, but few took into consideration the matter of depreciation. Others said horse and buggy were less expensive, but many added that the time saved more than offset the added cost of a car.

By then, the preference trend had been established. Trials under all conditions had brought out the better advantages of gasoline engines, pneumatic tires, multi-cylinder motors, drive shaft transmission, sliding clutch, water cooling systems and low wheels. These were reported in

mechanical detail and these were to become the specifications for the "physician's car."

The consensus was that the physician should own an automobile, but more than half of the physicians still emphasized that knowledge of mechanics was a requisite to satisfactory operation.

So widespread was the demand of physicians for mechanical knowledge that among books advertised in The Journal was J. E. Homans' "Self-Propelled Vehicles." Described as a "thorough course in the science of automobiles," it contained more than 400 illustrations and diagrams.

Nevertheless, the horse and buggy remained "an ace in the hole" for many physicians. Dr. E. T. Fields, Ensley, Ala., kept a team in reserve. In Lubbock, Tex., Dr. M. C. Overton depended on hired horses for use in muddy weather.

Memphis in those days had many unpaved streets. Dr. Max Henning of that city advised his confreres not to buy an automobile unless a horse and buggy were kept for use on bad streets.

Summarizing the opinions of physicians, The Journal said: "The automobile, while far from perfect, has reached that stage where it is a practical and economical conveyance under certain conditions. To the physician who has some mechanical genius, it is not only a welcome substitute for the horse, but it is a valuable means of recreation and diversion."

It made recommendations which the automobile industry adopted: Standardization of parts to cut production and maintenance cost; a $500 car, which Henry Ford eventually produced; reliability of performance; simplicity of construction to make parts easy to reach.

The editor decried the craze for speed and called for a 20-mile-per-hour-limit. He urged physical qualifications for drivers, pointing out that "if an automobilist is out of health, nervously weak, defective in sight and hearing, or under the influence of drugs or stimulants, he is not a safe man to run an automobile."

Physicians occasionally used their automobiles for other than transportation purposes. Dr. A. R. Baker, Cleveland, connected the battery in his electric car to an electro-magnet in his office. The power delivered excelled street current for magnetic removal of steel and iron from the interior of the eye in more than 30 cases, he informed his colleagues.

In Rome, N.Y., Dr. W. B. Reid found that the lighting in country houses frequently was insufficient for emergency surgery. He backed his automobile to a window, passed the acetylene lamp into the house and connected it with the gas tank on his automobile by means of a rubber tubing.

"The light is as good as in any well-appointed operating room," he reported.

Dr. J. H. Guinn, Arkansas City, Ark., ran wires from his garage to his office, connecting the battery in his electric automobile to electrotherapeutic apparatus. He eliminated "the annoyance and expense in keeping up a galvanic apparatus," he wrote.

At the American Medical Association's annual meeting in Chicago in June, 1908, five automobile makers displayed their products. Buick and Cadillac had special "physicians' cars." Bendix Company, Chicago, had a four-cylinder, high-wheel model. Doctors were invited to tour the Bendix plant to see cars in construction.

Holsman Automobile Company and J. V. Lindsley & Co., Chicago, had displays.

For the physician who still was not sold on the automobile, or who wanted a backstop, Heinzelman Brothers Carriage Co., Belleville, Ill., exhibited two of its popular style buggies.

On March 6, 1909, a third automobile section was published. It comprised 34 pages. Automotive engineers contributed articles as well as physicians. There were symposiums on wheels—low and high; on tires—solid and pneumatic; on motors and transmissions; on lubrication.

Dr. J. E. Alleben, Rockford, Ill., likened the advance in the automobile industry to that in surgery—"after many years of patient labor and experiment."

From then on, the automobile industry grew fast. In 1911, the Indianapolis Motor Speedway staged its first 500-mile race, to put the automobile to a grueling test. This merely added speed to the earlier trials.

But the physicians of the country had served as the first test drivers under actual road conditions.

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CASE REPORTS

Juxtadiaphragmatic Rupture of the Esophagus

KORNEL J. FOJCIK, M.D., CHICAGO

RUPTURE of the esophagus near the diaphragm was described as early as 1724 by the ingenious Dutchman, Boerhaave.[4] But this pathological entity does not yet have its permanent name. Most of the authors use the name spontaneous rupture of the esophagus.[1,2,5,7,8] Samson[12] proposed the name postmetic rupture, Moynihan,[11] pressure rupture, and Wangensteen,[15] acid peptic perforation of the esophagus. According to Chamberlain and Byerly,[6] experimentally and mechanically so-called spontaneous rupture of the esophagus does not occur unless by some extraesophageal force that suddenly increases the intraluminal pressure. As it is an organ rupture, it should be considered traumatic in origin.

All the above nomenclature embodies worthwhile ideas, but no one of these terms is ideal; therefore I will place all in one category and use the term, juxtadiaphragmatic rupture of the esophagus because this rupture, in spite of different causes, is characterized particularly by its location near the diaphragm. Regardless of the name of this entity, early diagnosis and immediate appropriate therapy is needed.

Boerhaave[4] described this condition in these words: "The Illustrious Baron Wassenaer, Lord High Admiral of the Republick, after intense straining in vomiting, broke asunder the tube of the esophagus, near the diaphragm, so that after the most excruciating pains the aliments which he swallowed passed, together with the air, into the cavity of the thorax, and he expired in twenty-four hours."

The history, symptoms, and signs of juxtadiaphragmatic rupture of the esophagus are quite characteristic in spite of the fact that probably not more than 200 cases have been described. Most diagnostic failures are due to the fact that the examiner is unaware of the symptoms of rupture of the esophagus or simply fails to think of it.[1]

After a concise review of this problem I intend to present a case of juxtadiaphragmatic rupture of the esophagus in which diagnosis was made at autopsy.

The first antemortem diagnosis was made almost one hundred years ago by Schoenlein, and reported by Meyer.[10] According to Sandberg,[13] G. Petren collected 30 cases from the literature in 1926 and made a detailed study of symptomatology. The first successful repair of the rupture was reported in 1946 by Barret.[3]

In this article I am omitting the description of all research pertaining to experimentally caused ruptures on cadavers. According to Anderson,[1] 85 to 90 per cent of cases occur in men. In the study of Ware et al.[16] there were 68 males, 14 females, and four in which the sex was not mentioned. One of the factors is that the men are more addicted to alcoholism than are women. Juxtadiaphragmatic rupture of the esophagus

From the Swedish Covenant Hospital

may occur in infants and in the aged but most commonly occurs in middle-age. Some patients have a previous history of alcoholism, overeating, or gastric ulcer. Others have no known pathologic history.

Immediately following rupture, the patient is seized by sudden excruciating pain in the epigastrium or behind the sternum, sometimes radiating towards the shoulders, usually after vomiting or followed by vomiting. Pain rarely is relieved by a single injection of a narcotic. The rupture is followed by shock with low blood pressure, thready pulse, shallow, rapid, painful respiration, pallor, and cold sweats. Slight cyanosis follows.

In the carefully done large statistical study of Ware et al.,[16] epigastric pain, vomiting, and chest pain were the most frequent symptoms. These authors state also that hematemesis or thirst may be the presenting or initial symptom in a small number of cases but these symptoms do not assume the importance of pain or vomiting. Thirst as an early symptom is not as common as it has been quoted to be by early authors.

Initially there is subnormal temperature; later, rising fever. The upper abdomen usually is hard and tender; the lower, soft. If rupture is into the pleural cavity, hydropneumothorax is present, most often on the left side. Hoarseness may be present. Subcutaneous emphysema is not always an early physical finding, but has been a late development in some patients studied by Ware et al.[16] They state that in cases in which rupture occurs directly into the pleural cavity rather than first into mediastinum, subcutaneous emphysema may be completely absent. In the material of Anderson[1] emphysema was present in 88 per cent of cases. According to Eliason and Welty[8] "some have been able to detect an abnormal sound of fluid and air in auscultation of the chest during the swallowing of water." Gardner[9] made his tentative diagnosis by observing the rapid respiration, crepitus of the neck, and rigidity of the abdomen. It is, in my opinion, not advisable to pay too much attention to different triads of symptoms and signs described by some authors. It is much more useful to know and observe the entire broad spectrum of symptoms and signs, and to know that such pathological entity exists.

The location of all those ruptures invariably is in the lowest part of the esophagus (juxtadiaphragmatic). Almost all are longitudinal and often in the left posterolateral wall of the esophagus. Several cases have been reported in which it is difficult to determine the exact pathology whether perforation or rupture.[7]

The differential diagnosis involves ruptured peptic ulcer, coronary thrombosis, spontaneous pneumothorax, broncho-pleural fistula, acute pancreatitis, ruptured gall bladder, dissecting aneurysm of the aorta, pulmonary embolism, incarcerated diaphragmatic hernia with or without rupture of stomach or bowel and splenic embolism.

If the possibility of juxtadiaphragmatic rupture of the esophagus is taken into consideration, differential diagnosis will not be too difficult and proper diagnosis may be made in large percentage of cases by history, physical examination, and observation of the patient. Immediate X-ray examination of chest and abdomen, electrocardiogram, serum amylase and history of gastroduodenal ulcer or gallbladder disease will be helpful in the differential diagnosis. Diagnosis will be easy if there is shallow, painful, and rapid respiration, mediastinal or subcutaneous emphysema, cyanosis, hydropneumothorax with shock and tenderness in the upper abdomen.

The passage of lipiodol or barium into the pleural cavity or into the mediastinum is a pathognomonic sign of the juxtadiaphragmatic rupture. Such findings as electrocardiogram characteristic for coronary thrombosis, pneumothorax not associated with shock, subdiaphragmatic air, high serum amylase will suggest other possible pathologic entities. According to Scannel[14] the clew of the diagnosis is the character of pain, which is similar to that of perforated ulcer in its onset and prostrating effect but with a substernal and pleuritic component.

The therapy of juxtadiaphragmatic rupture of the esophagus is surgical, and the method of choice is thoracotomy and repair of rupture, which should be performed as soon as possible. Gastric tube should be inserted. It is known that some patients in whom no closure of the rupture was performed, survived. In the last study of Anderson,[1] in 50 cases of different authors, only drainage was performed in nine. One of these patients survived. In 19, thoracotomy and closure of rupture was performed; 14 survived. Of

22 without surgical therapy, none survived. Castenfors[5] from Sweden reported a case in which diagnosis was not established until six months after onset. The patient was discharged as cured one year after drainage of a left pleural empyema.

Another Swedish author, Sandberg,[13] did not suture the rupture in a 49 year old man in spite of the fact that diagnosis was immediately made. Antibiotics generally and intrathoracally, oxygen, macrodex, and gastric tube were started immediately. Thoracocentesis was performed 16 hours after the onset. A solution of methylene blue taken by mouth ran out through the chest drainage. Roentgenography performed three weeks later did not show any rupture and two days later the gastric tube was removed. The further course was excellent. The lung was re-expanded by having the patient inflate a rubber balloon.

Prognostically, the outcome is extremely guarded, but it has improved in recent years with prompt surgical intervention and antibiotic coverage.[6]

Case history:* The patient, a 64 year old retired pharmacist, had been a heavy drinker in the past but not recently. He had had dyspnea on mild exertion for several years. He lived alone. According to his son, the patient had complained intermittently of indigestion for the past week. He was in bed and was seen with a hot water bottle on his abdomen at one time. Being a pharmacist, he probably treated himself during this period. The day before admission he seemed older to his daughter-in-law.

On the day of admission he suddenly developed severe chest pain with pallor, coldness, clamminess of the skin, and extreme dyspnea. A registered nurse was called to care for the patient; she believed he had a coronary occlusion and gave him 100 mg. demerol hypodermically.

At admission 8:35 p.m. the patient complained of severe pain in the epigastric region and in the chest. He stated that he felt like coughing but could not. The face was ashen gray. The pulse was thready, 126/ min. B.P.: 68/26. Temp.: 101 Resp.: 24/min.

The patient was given 1/4 gr. Morphine Sulfate and oxygen by nasal catheter. Because of the critical condition a chest X-ray and electrocardiogram was not done. Coronary thrombosis was suspected.

R.B.C.: 57% packed cells
Hb.: 15.4 Gm.
Urine was not obtained
W.B.C.: 8800
Kahn: Neg.

The B.P. soon became unobtainable. The patient went into severe shock and became unconscious. Some hours later the pulse rate was 116/ min. B.P.: unobtainable, temp.: 102 F., resp.: 30/min.* Moist rales were heard over the entire chest. The heart was not enlarged to percussion; there were no murmurs. The abdomen was soft and somewhat distended. The skin was cold and clammy with peripheral cyanosis. The patient was still moaning and had periods of apnea. The patient remained in shock, his course was steadily downhill, and he expired 16 hours after admission.

Autopsy: On opening the chest cavity there was a sweetish-sour smell resembling vomitus. The left pleural cavity contained about one liter of brown opaque fluid and the right cavity about one half liter. The lungs were crepitant. The mediastinum and the outer surface of the pericardium were fiery red. The lower part of the esophagus and the thoracic side of the diaphragm were brownish and superficially necrotic. On the left postero-lateral wall of the esophagus, four cm. above the diaphragm, there was a longitudinal rupture, one cm. in length. The pericardial sac contained thirty cc. of yellow fluid. The lower internal wall of the pericardium was fiery red. The heart weighed 360 gr. The wall of the left ventricle measured 19 mm. The myocardium was firm. The leaflets were smooth and pliable. The coronary arteries were wide and soft and they showed occasional yellow plaques. Microscopic: The esophagus showed absence of the squamous epithelial border. The cardiac muscle was well defined. Fatty changes were noted in the liver.

SUMMARY

This was a case of juxtadiaphragmatic rupture of the esophagus in the typical place: left posterolateral wall of the lower esophagus. The

*I express my thanks to Dr. A. C. Peterson for this case.

diagnosis was made at the autopsy.

As is sometimes the case, indigestion of one week's duration was present prior to the onset of acute symptoms.

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Psoriasis and diabetes

Whatever the metabolic disturbance may be which manifests itself in abnormal histochemical findings in the skin or blood of the psoriatic, we should not give it the label of a constitutional disease and dispense with further search for the real etiology. The history of diabetes should be a guide to teach us patience and caution against drawing premature conclusions. It is a long way from the discovery of the islands of Langerhans, insulin, and successful therapy of diabetes to the discoveries of the Cori cycle and ester and of the complexities of the interaction of pancreas, pituitary, and liver function. Modern research in psoriasis has not been amiss in looking for the organic disturbance which could be made responsible for the actual disease. The thyroid gland, the adrenals, the anterior pituitary, the pancreas, and the diencephalon have been given consideration, but the practical results have not been sufficient to be convincing. The importance of a factor X as the key to the problem of psoriasis was demonstrated to me by three chance observations made during a period of 35 years of dermatologic practice. It consisted of the dramatic disappearance of widespread and resistant psoriasis at the time these patients developed Graves' disease. This is in contrast with the lack of therapeutic results with thyroid extract or thyroxin and raises the question of the role of the anterior pituitary as the postulated factor X. *Paul Gross, M.D. Psoriasis. New York J. Med. Aug.* 15, 1957.

Coma
After Glutethimide (Doriden) Overdose

EDSEL K. HUDSON, M.D., AND ROBERT J. RYAN, M.D., CHICAGO

ALTHOUGH most sedative and hypnotic needs encountered by the physician can be met by the barbiturate or chloral compounds, they have certain shortcomings which have led to a continued search for better substances. Among the drawbacks of the older drugs are 1. True addiction to the barbiturates with physical dependence and withdrawal symptoms, 2. Alleged partial tolerance with prolonged barbiturate usage and 3. "Excitement" produced in some very young or very old patients with barbiturates.[1]

During investigation of several compounds with anticonvulsant properties, it was discovered that a nonbarbiturate, glutethimide (Doriden®) depressed the central and autonomic nervous systems.[2] This led to further study of the compound and its eventual use as a sedative and hypnotic. Chemically it is alpha-ethyl-alpha-phenyl glutarimide.

The drug is readily absorbed and in a dose of 0.5 gram usually produces sleep in 20 minutes. The duration of action with this dose is 4-8 hours. Gastrointestinal irritation is minimal, although an occasional patient has anorexia, nausea, and vomiting. Occasionally dizziness or lightheadedness has been observed.[3] Other side effects reported[2,3,4,5,6,7] include rash, xerostomia, ataxia, excitement, confusion, and thick speech. In one patient, idiopathic jaundice developed concurrent with therapy and cleared spontaneously within eight days of cessation of treatment.[2]

Lane[4] found no abnormalities in the blood count, urinalyses, or thymol turbidity or cephalin flocculation tests in 37 patients treated with up to 1 gram daily. Forbes[8] reported minimal effect of glutethimide on psychomotor performance. When alcohol was administered with the drug psychomotor performance was substantially reduced.

Several cases of acute glutethimide intoxication have been reported. In one[9] the picture was that of deep coma for 23 hours, hypotension requiring Neo-Synephrine, and varying neourological signs after ingestion of 10 grams in a suicidal attempt. Another report[10] states that coma was present for 36 hours after a dose of 5 grams of glutethimide. One patient died in what was apparently a hypotensive episode after ingesting 20 grams of glutethimide.[9]

We wish to report a case of coma following ingestion of glutethimide:

A 21 year old white female was brought to the emergency room by her husband. The following information was obtained from him. On the preceding day, the patient complained of headache but otherwise appeared to be her usual self. Headaches was attributed to drinking too much alcohol the night before. On the morning of the day of admission when the husband left for work, she was still asleep in bed. He returned at 7:00 p.m. and found her unconscious on the bed and a bottle nearby containing two white pills. These were subsequently identified as glutethimide. The husband recalled that these pills had been given to him as a prescription for headaches. He did not believe that his wife had been depressed or ill in any way.

On admission the patient was completely unresponsive to verbal or painful stimuli. Numerous ecchymotic areas and abrasions were seen on the trunk and extremities. No signs of head injury were noted. Blood pressure was 130/78 on arrival but shortly thereafter it dropped to 100/60. The pulse was 100 on admission. Respirations were 24/minute and of good amplitude. The pupils were dilated and unresponsive to light but were symmetrical and equal. Fundoscopic examination was normal. Neurologic examination showed absent deep tendon reflexes

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in the upper extremities and equivocal knee and ankle jerks. No pathologic reflexes were elicited. No other abnormalities were noted.

A lumbar puncture revealed clear, colorless, fluid under pressure of 180 mm. of water. No cells were seen on microscopic examination. The urine gave negative reactions for sugar and acetone. A blood sugar of 220 mgm. per cent was obtained while glucose was being given intravenously.

Initial treatment consisted of maintenance of an adequate airway, administration of intravenous fluids, and gastric lavage. Four hours after admission the patient was given beta-methyl-ethyl glutarimide (Megimide)® in a dose of 50 mg. This was repeated 90 minutes later with no response. Fifteen minutes after the last dose of Megimide she was given intravenously 6 mg. of Amiphenazol.® Repeated doses of 9 and 16 mg. of the latter drug at 5 minute intervals produced no change in her condition. The patient remained unresponsive with slight temperature elevation to about 101 degrees rectally with a rise to 102.6° on the following day. Her blood pressure during the period of coma ranged between 100 and 130 systolic over 60 to 100 diastolic. The pulse varied between 120 and 140, while respirations were 28 to 40.

The first change, 36 hours after admission, was the appearance of a positive gag reflex and movements in response to painful stimuli, followed several hours later by nonpurposeful movements of the extremities. Improvement was progressive until 48 hours after admission to the hospital, the patient was completely awake, although she had prolonged hallucinatory episodes for the following 24 hours. These consisted of the fear that someone was trying to kill her, resulting in the refusal of foods and liquids, visualizing large snakes in the room, and seeing little men on the ceiling. Subsequently she was well oriented and recollected her hallucinations clearly. She was reluctant to talk about incidents leading up to her ingestion of the glutethimide. She did reveal that she made an abortive attempt at suicide in 1953 by swallowing an excess amount of Anacin.® The patient was discharged after six days of hospitalization to be followed as an outpatient in the psychiatric clinic.

COMMENT

It was concluded that the coma was induced by the ingestion of approximately 17 grams of glutethimide. The patient showed only minimal hypotension and respiratory depression. Megimide and Amiphenazole, 2-4 diamino 5 phenythiazole, were used because of recent reports[11,12] on their effectiveness in treatment of barbiturate poisoning. The former drug has some structural similarity to both glutethimide and the barbiturates and is thought to be a direct antagonist to the barbiturates. Amiphenazole is used as a synergist and respiratory stimulant. Rowell has treated glutethimide poisoning with these drugs and recommends their use in such cases.[13]

Although the newer hypnotics have been shown to be safe compounds when used legitimately, some persons will ingest large amounts for the psychic reaction obtained or in an attempt to commit suicide. Lasagna[1] emphasizes "one of the dangers accruing from the introduction of new hypnotics" is the implication of much of the advertising for, and thinking about, these compounds has been that the drugs are nonbarbiturate and devoid of danger. Attempted suicide has been reported with most of the new nonbarbiturates and serves to remind the physician of the importance of assessing the emotional status of his patient before prescribing large quantities of any drug. Unfortunately many nonprescription over the counter drugs remain available to the insomniac and emotionally disturbed individual.

SUMMARY

A case of coma following ingestion of approximately 17 grams of glutethimide (Doriden) is reported. The patient recovered after about 48 hours without after effects.

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The Finnish bath

The unique social institution of Finland is the sauna. This Finnish bath defies all thermal physiology yet is as commonplace as the bathtub in the American home. Some 80 per cent of all detached homes have a sauna as a detached building, usually on a lake edge. Nearly every residence, club, hospital, and most hotels have one or more saunas. Public saunas in which the sexes mix are here and there. The family sauna takes in the entire family at one time. There is something mystical or at least enigmatic about the sauna for most visitors, and it is something the native cannot or will not explain. Genuine eager interest in the sauna may lead to seemingly intelligent questions but even the best of friends may bristle a bit as though impertinent questions were being asked about the details of his sex life. At once the native goes on the defensive about the sauna, as though there was something shocking about it like addiction to marijuana. The inquiries might be, "Is this purely a social institution like the Englishman's tea? Is it a form of therapy? Is it merely a form of bathing for hygienic purposes? Is it a sport? Is it just a habit?" All such innocent questions may raise the hackles. At every book stall may be found popular books on the sauna. The contents do not answer all questions. Sometimes contradictions appear in different chapters of the same book. One chapter may advocate the sauna for hypertensive disease while another may condemn or recommend low temperatures.

Incompletely informed, it appears that the sauna is a dry, high temperature bath for prompting profuse perspiration, accompanied by birch bough flagellation to promote bettered circulation. Some hardbitten psychiatrists outrageously insist that the entire process is a ritualistic sex substitute. This is followed by a plunge into the lake, breaking the ice aforetime if necessary, or at the club, ducking under the cold shower at its coldest. The temperatures involved are amazing. Factually, the room temperature may exceed 212 degrees F. Temperatures as high as 260 degrees F., are mentioned without awe. The preferred temperature appears to be 190 degrees—still no highly chilled air. In America, we shudder apprehensively over the possible air conditioning shock and metabolic upset on passing from an artifical climate of 78 degrees F. into an outside summer temperature of 96 or just the opposite. Consider the Finn, either the hearty or near invalid one, who leaves his sauna temperature of 212 degrees F., in a trice plunges his well beaten skin into freezing water, coming up shouting with joy. Then he picks up his morning eggs, carried raw into the sauna with him, now well coagulated and ready for the breakfast table peeling. It's all perplexing. *The Editor in Scandinavia. Indust. Med. Sept.* 1957.

Homosexuality

A story of my clinical experience in Southern California some years ago will illustrate the complications involved in the evaluation of hormonal treatment. The medical literature at that time contained favorable reports of treatment of homosexuality by androgens, and it acquired a certain vogue. Several California jurists who knew the futility of sentencing homosexuals to jail began sentencing the convicted person to undergo treatment. Some were sentenced to hormonal treatment and others to psychiatric treatment. As a result of these efforts, further articles reported successful treatment with androgens—success that I, as a psychiatrist, envied.

One day a young man came to my office to consult me about a problem that only skirted on his homosexuality. A confirmed homosexual, he had little anxiety about his activities because he considered himself a constitutional homosexual and felt relatively blameless. In the exploratory course of our discussion, he said he had once been treated by androgens, not entirely of his own will, as the result of a court sentence. He then described how he and several of his associates had contrived to "respond" to the treatment, varying their stories so as to give them the hue of veracity.

He said that he arrived late for his first appointment and grumbled at the injection. The nurse reminded him to return for his next one or else. Next he complained of noticing no improvement at all. On the third visit he told the nurse he was depressed and said he and his boy friend had fallen out and might separate. Next time he was more depressed and was moving out, he said, because he could not tolerate his boy friend. The fifth time he carefully implied he was less depressed, and reported no difference except that he had no desire for anything or anybody. On the sixth visit he told the nurse, "A simply fantastic thing happened. I've been going to a local bookstore for years and never noticed before a very pretty girl who works there as a clerk." By the seventh visit he reported making a date with the girl and at the end of the treatment, claimed satisfactory sexual relations with her. This case figured in a published report of successful treatment. Meantime, this patient and his companions who had been treated also went on with their homosexual activities, except that some of them suffered from an increased drive—the result of the injections of androgens. How much of the exacerbation was biochemical and how much psychological, no one knows. Nor does anyone know to what extent similar ruses may have distorted medical results reported in the literature. *Normal Reider, M.D. Problems of Homosexuality. California Med. June* 1957.

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Hawaii, here we come

Plans for the two weeks' tour to Hawaii and return following the 1958 annual meeting of the AMA in San Francisco are jelling.

Members of the Illinois State Medical Society, their families and friends may take advantage of the specially arranged trip. Now is the time to fix the date for your 1958 vacation. Participants will leave San Francisco by plane, Thursday evening, June 26, arriving in Honolulu the following morning. Eight delightful days will be spent in the Islands.

The return trip of 4½ days will be made on the luxury liner, the S.S. Lurline, arriving in San Francisco, July 9.

Literature on what Hawaii has to offer in the way of entertainment may be had by writing to Mr. W. M. Moloney, c/o Harvey R. Mason Travel Co., Inc., Professional Building, Old Orchard, Skokie, Illinois.

EDITORIALS

Carrollton physician named Illinois "G.P." for 1958

Dr. Arthur Kirby Baldwin of Carrollton, Ill., was selected by the Illinois State Medical Society as "General Practitioner for 1958."

A plaque emblematical of the honor will be presented to Dr. Baldwin at the Society's annual meeting in Chicago in May.

The selection was made on the basis of his 37 years' record as a country physican, his service to the medical profession, his war record and his community activities.

Dr. Baldwin was born on a farm near Berwick, Warren County, Ill., July 12, 1888, the first of eight children of Mr. and Mrs. Charles L. Baldwin, who had a dairy farm. He was educated in country schools and Monmouth High School, where he was valedictorian of his class.

By that time, the youthful Baldwin had lost all desire for farming. He saw the medical needs of sparsely settled sections of the agricultural area of Western Illinois, and took a premedical course in the now defunct William and Vashti College at Aledo, Ill. This was followed by two years at the University of Iowa College of Medicine, Iowa City, and two years at the Rush Medical College, Chicago, from which he received his M.D. degree in 1916.

After interning for two years at Michael Reese Hospital in Chicago, Dr. Baldwin enlisted in the U.S. Army. He was in training at Camp Jackson, S.C., when the armistice was declared. He then volunteered for service in the American Occupational Force and moved as a first lieutenant with the army of occupation through Siberia in 1919 and 1920.

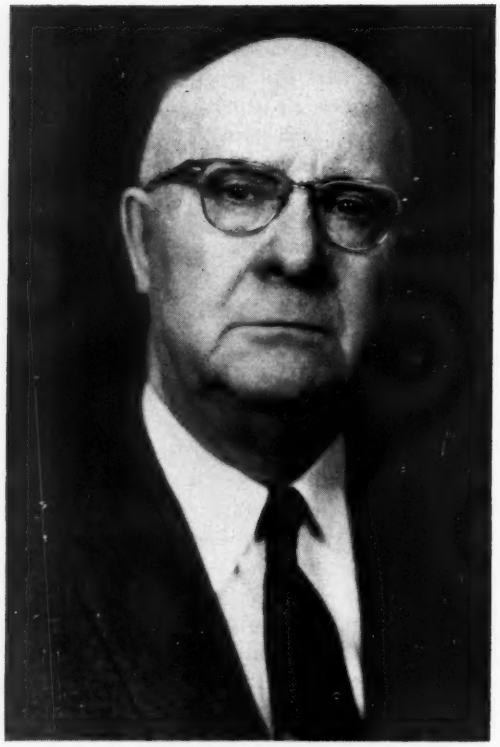
Upon his return to the United States, he took up the practice of medicine in Elmwood, Peoria County. Four years later he moved to Carrollton, where he has been in practice ever since.

Dr. Baldwin encountered the usual difficulties of a physician in a community without a hospital, but he met the challenge and provided medical care which won the approbation of his patients and his community.

In 1941, he, Dr. Arthur D. Wilson and Dr. Paul A. Dailey organized the 20-bed Thomas H. Boyd Memorial Hospital at Carrollton. This was doubled in size by an addition in 1950. Ten beds are being added by an obstetrical and gynecological unit now in construction.

Dr. Baldwin, who has served as president of the hospital's board of trustees since its inception, saw the need for modern anesthesiology, and in 1949 he sacrificed a busy practice to take three courses over three years in that field at Cook County Hospital, Chicago, and refresher courses at the University of Kansas Medical School in 1955 and 1957.

He serves as anesthetist at nearly all operations at the hospital. To date he has adminis-



Arthur Kirby Baldwin, M.D.

tered anesthetic in more than 4,300 cases without an anesthetic death.

Dr. Baldwin's usual work day starts at 8 o'clock in the morning at his hospital. It ends about 10 o'clock at night in his office. He is subject to call at all hours.

With his busy medical practice, which takes him over a radius of about 15 miles, he still has found time to aid his community in other ways. He served as president of the School Board for three years, has been president of the Tuberculosis Sanatorium Board since its founding 10 years ago, and became charter president of the Lions Club in 1936.

He has served four times as president of the Greene County Medical Society and twice as delegate to the Illinois State Medical Society's House of Delegates. He also is a member of the American Medical Association, Illinois Society of Anesthesiologists and American Society of Anesthesiologists. He holds a National Board license to practice.

Dr. Baldwin married Miss Louise Murphy in 1922. They had first met while he was interning in Michael Reese Hospital where she was a nurse before she went overseas with Base Hospital Unit No. 14. They have three children, one of whom, James, is an orthodontist in Indianapolis.

Dr. Baldwin is a member of Carrollton Masonic Lodge No. 50, the First Presbyterian Church and the American Legion.

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Anticholesterol agents

Drugs that lower the cholesterol level are being announced by many pharmaceutical, chemical, and food concerns. The majority of these products contain vegetable oils and are prepared from corn, safflower, or soybean. Reducing the fat intake of the diet also lowers blood cholesterol and reducing weight has the same effect in the obese.

Many of these anticholesterol agents are high in calories and there is a possibility that the treatment may backfire if the result is a gain in weight. From 450 to 600 calories are consumed, for example, when corn oil is used according to directions.

There is considerable speculation whether these anticholesterol agents will become popular. The majority of patients want objective results from the medicines they take. Even if corn oil lowers blood cholesterol, many persons will discontinue the treatment after the third or fourth bottle since it has no effect on how they feel.

It is difficult to change human nature. The scare of lung cancer has not reduced the sale of cigarets and it is doubtful whether the scare of coronary thrombosis will make corn or safflower oil as popular as coffee on the dining room table.

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You can say that again

A patent medicine manufacturer who has changed the formula of his cold cure innumerable times without bothering to change the label finds himself unable to cash in on the present influenza vaccine bonanza. But there are other ways of making money in an epidemic than huckstering vaccine. Timed perfectly to save those citizens whose doctors are unable to secure vaccine, his laboratories have discovered a remarkable new citroid tablet "specifically designed to counter each important symptom of the common cold, adenovirus (APC) infections, and mild influenza." On our desk this morning is an

important looking envelope bearing this message: "When your patients start to ask about the new citroid...."

When my patients ask ME about the new citroid, I shall tell them to take an aspirin and go to bed.

Editorial. Philadelphia Med. Sept. 27, 1957.

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Asian influenza spreading

Reports of a spreading of Asian influenza in a zigzag fashion throughout the country continued in recent months. The disease appears to have affected a large segment of the population and prospects were that millions of people will become victims of the virus.

Of considerable concern to the medical profession was the fact that many physicians were unable to obtain vaccine for their patients. At the same time, reports were current that some large industrial organizations, health departments, and other groups were able to obtain all they needed.

This situation placed many physicians in an uncomfortable position. The public was urged to be vaccinated, but when people tried to follow the suggestion they were told vaccine was not available.

AMA and the Public Health Service took cognizance of these reports and urged that manufacturers allocate their shipments to states in accordance with the population and to follow priority recommendations of state and local advisory committees in filling orders.

In letters to manufacturers, Surgeon General Burney declared that "we believe listing of essential personnel within a community can be done best at the community level."

Since the PHS did not go into detail on allocation of output in line with "state and local recommendations," this left the producers in a quandary. Vaccine is shipped as a rule to wholesale drug houses, pharmacists and retail men rather than to physicians or other high priority users directly. Consequently, the feeling among manufacturers was that the wholesalers were in better position to exercise control over the allocations of supplies.

The AMA pointed out that until sufficient vaccine becomes available to meet the demands, physicians will have to decide how best to conserve the supplies. Two methods of injection have been suggested. One calls for one subcutaneous injection of one cubic centimeter, the other for two intradermal injections of one-tenth of a cubic centimeter each.

"Until further information about the effectiveness of these two methods is available, the physician will have to decide for himself how the vaccine should be given to his patients," the AMA said.

Dr. Harold C. Lueth, chairman of the AMA's special committee on influenza, said that while industry will no doubt experience a marked increase in absenteeism this winter if the expected Asian influenza epidemic materializes, it should not get panicky and rush into a program of mass inoculation of employees until essential priority groups are first served.

In the priority list are persons engaged in health, police, fire, communications, transportation and utilities duties, along with those who in the opinion of physicians constitute a special medical risk.

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White coats on TV

Washington wants something done about visual representations in TV advertising, according to FDC Reports. As a result, the Federal Trade Commission is now pitting its wits against the antacid claims of Rolaids. Their prosecutors have selected products such as BiSoDol, Tums, and plain bicarbonate of soda as contrasts to prove false Rolaid's TV ad claims to be "twice as effective" and "twice as fast."

The hearings also may decide on a sore point among physicians—the "white coat" dramatization. The FTC charges that consumers are misled, thinking that an actor dressed in a white coat, and being addressed as "Doctor" is a real M.D. The implication is that the medical profession endorses Rolaids.

The FTC also objects to the scene in which hydrochloric acid supposedly burns a hole in a cloth napkin but when mixed with Rolaids—no burn. This goes back to the misconception that gastric juice will burn the lining of the stomach unless it is controlled.

Physicians agree with Capitol Hill and want this type of advertising eliminated from the air. They want no reference to the medical profession in the endorsement of any medication—nostrums or ethical products. Radio and TV are

long overdue for a code of ethics along this line. If the manufacturers, advertising agencies, and stations will not get together on a code, there is bound to be government intervention.

All this r e e k s of the old patent medicine spieler, barking from a wooden box, between bits of entertainment provided to attract the suckers.

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That 21 billion dollars— or black is white

Elmer V. McCarthy, M.D.

Old age and survivors insurance is, in the estimation of most rational economists, a far cry from anything known in this country as insurance. An institution which has the legal right to force one's money from him — even though it does imply theoretical financial benefit so unsound actuarially that any private concern offering the same terms would be closed up within twenty-four hours — i s n o t offering the American concept of insurance.

The concept of social security is basically socialistic. It was never designed as a basic welfare innovation. Rather, it was intended as a veiled taxing device and a self-generating source of perpetual government power. That is precisely what it is today.

An example of the actuarial unsoundness of the plan is inadvertently revealed by Dr. Walter Bornemeier who, in the June 1957, issue of Illinois Medical Journal presents a plea for the adoption of this mirage by the medical profession. He states: "The doctors would pay less than $1,000.00 in social security taxes and become eligible for an average of $14,000.00 each. Today's aged would receive about fifty times what they paid in O. A. S. I. " Now, inasmuch as this means money to be paid out by government, which money in turn is derived from no other source than the taxpayers, this scheme is analagous to an auto-transfusion with blood drawn from the left arm and infused into the right.

It must be perfectly obvious that if this scheme were financially possible, there would be no lack of private interests offering the coverage. The question arises: If the government can do it, why can't private interest? Again, the obvious answer is that private insurance companies operate under a great many governmental regulations and restrictions; they pay income taxes and they must have on hand a ready reserve of ASSETS at all times. Government regulates and approves itself, pays no income taxes and represents its DEBTS as ASSETS.

Specifically, the 21 billion dollars which Dr. Bornemeier assumes the government has in reserve is actually a 21 billion dollar government DEBT represented in the form of government bonds as an I. O. U. This money was first forced from the taxpayers. Next, the interest on these bonds was forced from the taxpayers. Finally, the public will again be forced to redeem these bonds through the medium of taxation. All of this with the taxpayer's money because the government has no money aside from what it gets from the taxpayers.

A government bond is a certificate of ownership of a specified portion of debt owed by the government; 21 billion dollars in government bonds is 21 billion dollars in government debt. The government is getting away with a token payoff at present because it is drawing on all tax monies received—not from a theoretical fund which is not and never was in existence. One wonders if there will be enough money in the world to pay off all insurance claims against this spurious fund in another twenty years.

Dr. Bornemeier states that the President, the Congress, Labor, the white collar class, college professors, dentists and lawyers are for social security. This statement is, of course, highly speculative, as the only groups polled in the matter have been the doctors and lawyers. It is true, as Dr. Bornemeier avers, that the doctors are against social security. At any rate they are against the fraud that presently parades as security. Among those who are presumed to be for social security are the welfare-staters, the new dealers, the modern Republicans, all the socialists and all the communists. It is to the credit of medicine that few of its members are found in these ranks. In the vanguard of resistance to the road to serfdom are the physicians and all others devoted to the free market, free enterprise, competition and limited constitutional government. There will always be those who are shortsighted enough to trade their heritage for a mess of pottage, but it is easy enough to understand the thinking of those who are tempted to risk less than $1,000.00 to gain $14,000.00,

particularly when this shell game is offered by politicians who at the moment control the government.

Social security, although a tremendously important issue today, is but one of the steps being pushed piece-meal by the social planners in their efforts to abolish the government of the United States and in its place create a membership in a communistic world government. Beware the Greek bearing gifts.

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Student loan fund praised

An interesting letter was received recently from a young physician who received financial aid for his medicaleducation from the Joint Medical Student Loan Fund, operated by the Illinois State Medical Society and the Illinois Agricultural Association. The letter was received by Mr. Ivan Parett, Secretary of the Joint Medical Student Loan Fund Committee, who likes to keep in touch with the large number who have received loans from the fund.

The Illinois State Medical Society and the Illinois Agricultural Association have a joint committee from the two allied organizations, to consider applications for assistance, and take final action in making the selections. Dr. Harlan English of Danville, is chairman of the State Medical Society Committee.

The young physician writing Mr. Parett said; "At the present time I serving as Division Psychiatrist for the First Infantry Division at Fort Riley, Kansas. I will be released from the military on 1 July, 1958, and my present plan is to start a one year period of training in surgery at that time, in accordance with the provisions of my contract. Following the completion of that year, (or in July, 1959), I intend to start a general practice in a small town in Illinois, preferably somewhere in the northwestern part of the state.

It has been seven years since I sat in Dr. English's office on a Sunday afternoon and talked with you and him, and much water has gone under the bridge since then, but I'm sure I will never forget that day. It was, I'm sure, one of the most important days of my life, and it hard to imagine where I might be or what I might be doing now, had it not been for the assistance you gave me. It is hard to believe that in less than two years. I will be starting my own practice. I am still very enthusiastic about general practice and about the joint IAA and ISMS Student Loan Fund."

It is most encouraging to both of the cooperating organizations operating this fund to receive letters such as this one from a Captain in the U.S.M.C., who is looking forward to becoming a general practitioner somewhere in rural Illinois.

Many letters of a similar type have been received by Mr. Parett and Dr. English, and we have every reason to believe that this will be a self perpetuating fund when a few more young physicians complete their military obligations and enter the general practioner field in Illinois.

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AMA clinical meeting in Philadelphia, December 3-6

The AMA's 11th annual clinical meeting will be held in Philadelphia, December 3-6. About 4,000 physicians are expected to attend.

Center of activities will be Convention Hall where scientific and technical exhibits, color television, motion pictures, and scientific lectures will be presented. There will be 120 scientific exhibits prepared by physicians and 160 technical exhibits presented by pharmaceutical houses, equipment manufacturers, and medical publishers.

Approximately 200 physicians will participate in lecture meetings, symposiums, and panel discussions on such subjects as cardiovascular disease, cancer, emotional problems of the menopause, hypertension, diabetes, arthritis, and injuries.

A special feature will be a trans-Atlantic conference between physicians in Philadelphia and London. The conference, on advances in chemotherapy of cancer, will be held via telephone at 3 p.m. (EST) Wednesday, December 4.

Closed circuit television clinics, featuring Philadephia physicians, will originate from Lankenau Hospital. A medical motion picture program is also being prepared.

Headquarters will be the Bellevue-Stratford Hotel, where the AMA House of Delegates, the Board of Trustees, and various councils and committees will meet.

The first action of the House of Delegates when it convenes Tuesday, December 3, will be to name the "General Practitioner of the Year."

AMA committees schedule meetings

Two committees of the AMA Council on Medical Service plan regional meetings Monday, December 2, in Philadelphia just prior to the AMA 11th Clinical Session. The Committee on Maternal and Child Care is holding its first regional meeting on prenatal mortality and morbidity. Invitations have been sent to members of maternal and child care committees in fourteen eastern states.

The Committee on Aging is holding its third regional conference for members of state committees on aging. Subjects to be discussed include physical examinations and a health maintenance program, guides for the organization and operation of medical society committees on aging, medical education in caring for the aged, preretirement counseling, and special research programs of a medical school. Physicians interested in attending either of these sessions should contact the AMA Council for further details.

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The new AMA research foundation

The American Medical Research Foundation was recently established by the AMA. Principal purposes for the Foundation will be; (1) to promote the betterment of public health through scientific and medical research; (2) to plan and initiate scientific and medical research, and (3) to collect, correlate, evaluate and disseminate results of scientific and medical research activities to the general public. Voting members of the Foundation will be members of the AMA Board of Trustees. Meetings will be held annually at the time of the AMA annual sessions.

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National employ the physically handicapped week

Governor William G. Stratton keynoted Illinois' observance of National Employ the Physically Handicapped week, October 6-12, with a dedicatory address at a dairy farm near Mt. Sterling, Brown County, which is operated by a blind person, Bernard L. Bunfill. The Governor's address was made at the Bunfill farm on Thursday afternoon, October 10.

The Bunfill farm is a 210 acre tract and it is the first of its kind to be operated in Illinois, and one of the first in the nation. The farm is sponsored by the Illinois Division of Vocational Rehabilitation and represents a major advance in services for the blind. It is the first unit in a recently established rural enterprises development for the blind and visually handicapped in Illinois, and is the result of an effort to train persons who become blind so they may return to the occupations they previously pursued.

Bernard Bunfill, owner of the farm, was born and brought up on a farm in the Mt. Sterling area. After engaging in farming for many years, he became a salesman for a creamery company. In 1955 an eye hemorrhage brought on sudden blindness. A home teacher from the field services of the Illinois Department of Public Welfare first worked with Bunfill to help him adjust to his blindness. Later the Division of Vocational Rehabilitation recommended that he return to the farm. With the help of rehabilitation counselors, Bunfill began operating his present farm about a year and a half ago.

He now has a herd of cows, and maintains his dairy at a high level of sanitation. Bunfill is one of 4,207 physically handicapped persons placed in remunerative employment by the Illinois Division of Vocational Rehabilitation during the past year.

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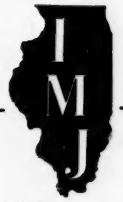
Civil defense conference aids county society planning

Information designed to help local medical and health personnel plan for their roles in disaster and civil defense was presented at the Eighth Annual County Medical Societies Civil Defense Conference in Chicago, November 9-10.

The conference was sponsored by the AMA Council on National Defense. Among the highlights were reports on the experience gained through several test operational exercises conducted under simulated disaster conditions.

It was pointed out that the effectiveness of medical preparedness plans was demonstrated last June when parts of Louisiana were struck by a hurricane. Prompt, organized response by medical personnel to appeals for help saved innumerable lives.

MEDICAL ECONOMICS



Specialization

ROLAND R. CROSS, JR., M.D., CHICAGO

THE mention of this word "specialization" is becoming the signal for starting an argument. Medicine argues over it so much that one might think it was purely a part of medicine, like anatomy, hospitals, physiology and laboratories. And yet a quick appraisal will reveal that it is not a characteristic of mericine alone. While it is true that practitioners of medicine seem to be of strong opinion as to its proper place, almost as if they fear that medicine will be ruined if it is not carefully controlled, still other fields have specialization without so much, although not devoid of, argument and sharp battle lines. In the field of law, many have become known as specialists in corporation law, constitutional law, real estate tax law, and the like. But closer in relation to medicine is our sister profession—dentistry. Dentistry is also developing specialization, but this has come about in a relatively quiet manner.

There are now seven fields of dentistry which have been recognized by the Council on Dental Education as specialties. The boards representing these dental specialties are as follows:

1. The American Board of Dental Public Health. This is more or less obvious in its scope.

2. The American Board of Oral Pathology. This covers the histological and gross changes of tissue disease of the oral cavity.

3. The American Board of Oral Surgery is concerned with surgery such as fractures, extractions, cysts and even cancer of the oral cavity. There is some overlapping with the ear, nose and throat physician in this field.

4. The American Board of Orthodontics. This group is concerned with the prevention and correction of irregularities of the teeth and malocclusion.

5. The American Board of Pedodontics is concerned with children.

6. The American Board of Periodontology is concerned with the tissues around the teeth and their diseases.

7. The American Board of Prosthodontics is the field of dental appliances and substitutes, such as crowns, bridges and dentures.

In discussing this recently with a professor in a leading dental school, it was learned that such specialization is proceeding just as steadily as is specialization in medicine. Any town of about 50,000 should be able to support a specialist in oral surgery. The Veterans Administration has almost two dozen such specialists. It would appear that specialization has hit the dental field about 15 years later than it did the medical field, but it is nevertheless here with us.

In keeping with such a trend, it must, as night follows day, develop a special training program. And so in many larger hospitals there are internships and residencies. A person wishing to aim toward such certification must spend two years in graduate or postgraduate courses, and, in addition, spend three years in practice devoted primarily to that specialty. Following this the candidate must pass the certifying examination. In addition, in some specialties, there is a separate examination given by the

State Department of Registration and Education, which is not true in the field of medicine.

As of 1956, Illinois has 35 oral surgeons, 75 orthodontists 6 prosthodontists, 11 periodontists, 7 pedodontists, 4 oral pathologists and no Public Health dentists. There are, undoubtedly, some who are aiming toward such certification of their specialization, but have not reached the point of being certified as yet. The dental schools graduate about 3,000 new dentists each year. The 1956 American Dental Directory lists 99,227 dentists, of which 89,000 are active in the profession. Of the 89,000 about 86,000 practice dentistry and 3,000 are engaged in teaching, research, administration, and so forth. Illinois has 6,233 dentists for a ratio of one per 1,513 people. Pulaski County is listed as having one dentist for 14,400 people; Edwards County has one dentist for 8,800; Cook County has one dentist per 1,215 people, and Morgan County has one dentist per 1,369 people. These are just examples. Illinois has 124 negro dentists with a negro population of 645,980, or one per 5,210 people, but it is assumed some negro patients go to non-negro dentists. The median net income of all dentists in Illinois was $12,039. Illinois has 104 hospitals with dental departments—this is 29.1 per cent of the hospitals in Illinois. This does not mean they are all approved by the American Dental Association. Of these hospitals, only 27 are approved. Five of these have approved internships and three have approved residencies for dentists.

According to the American Dental Association Journal, the expenses of independent dentists amounted to 43.5 per cent of the gross income in 1955. Dentists did best financially in towns of 50,000 to 100,000, 100,000 to 250,000, and in 250,000 to 1,000,000. Over 1,000,000 population in size produced a fall-off in income, but it did not fall as low as dentists earn in towns of 5,000 to 10,000. In general, a dentist is at peak earning power by age 40 to 44 and then slowly declines.

Specialists in dentistry reported a mean net income of $16,178, which was 36.8 per cent higher than the mean of general practitioners ($11,829). This was for all dentists. The differential was greater if one considered only independent dentists, for in this group the mean net income was $18,261 for specialists, which was 52.2 per cent more than for general practitioners (12,000). There is a tendency for a larger proportion of specialists to be salaried as compared to general practitioners.

Among the specialists, there was a still wider range for orthodontists had a mean net income of $21,181 and oral surgeons had a mean net income of $15,844, while at the bottom were prosthodontists with a mean net income of $10,082, but one must remember the smaller number of the latter.

Just as in anything else, the ability to organize pays off. A typical dentist with one chair and no employees earned $7,494 in 1955 compared to a dentist with three chairs and two assistants who earned $18,221 mean net income.

In hours of work per week, a general practitioner had a mean number of hours of 43.4 while an oral surgeon worked 37.9 hours, a prosthodontist had a mean of 36.8 hours and an orthodontist 41.3 hours.

There is a difference in the specialization picture in medicine as compared to dentistry. In medicine with the desire of the patient, the need for laboratory control and aid, as well as the growth of hospitalization insurance, there has developed a great utilization of hospital beds. People are more prone to use hospitalization. This brings the general practitioner's work into a central place where it is open to inspection and criticism by committees of the staff, of the hospital, and of accreditation agencies. On the other hand, the dentist in general practice is truly independent. His office is his castle and it has so far been uninvaded. He does not have to play politics to improve his staff position or to gain more privileges. He has no committees to inspect his work or his records. No autopsies are done so that Monday morning quarterbacking is a pastime. His primary criticism is his own conscience and standard of perfection. He has no pressure to refer cases to specialists save his own feeling of need for their aid. Will this so remain, or will the growth of this dental specialization bring a change in the practice of dentistry in the years to come? It is doubtful if anyone in 1930 would have envisioned the growth of specialization in medicine as it is today. As in all things, it will be interesting to see the change that years will bring.

CORRESPONDENCE

Clinics for crippled children listed for December

Twenty clinics for Illinois' physically handicapped children have been scheduled for December by the University of Illinois, division of Services for Crippled Children. The division will count 12 general clinics providing diagnostic orthopedic, pediatric, speech and hearing examination along with medical social and nursing service. There will be three special clinics for children with cardiac conditions, two for children with rheumatic fever and three for cerebral palsied children.

Clinics are held by the division in cooperation with local medical and health organizations, both public and private. Clinicians are selected among private physicians who are certified Board members. Any private physician may refer to or bring to a convenient clinic any child or children for whom he may want examination or may want to receive consultative services.

December 4 — Carmi, Carmi Township Hospital
December 4 — Hinsdale, Hinsdale Sanitarium
December 4 — Rock Island (Cerebral Palsy), Foss Home, 3808 8th Ave.
December 10 — E. St. Louis, Christian Welfare Hospital
December 10 — Effingham (Rheumatic Fever), St. Anthony Hospital
December 10 — Peoria, Children's Hospital, (St. Francis)
December 11 — Elgin, Sherman Hospital
December 12 — Springfield, St. John's Hospital
December 13 — Chicago Heights (Cardiac), St. James Hospital
December 17 — Belleville, St. Elizabeth's Hospital
December 17 — Peoria, Children's Hospital (St. Francis)
December 18 — Alton (Rheumatic Fever), Memorial Hospital
December 18 — Chicago Heights (General), St. James Hospital
December 18 — Elmhurst (Cardiac), Memorial Hospital of DuPage Co.
December 18 — Springfield (Cerebral Palsy), Memorial Hospital
December 19 — Bloomington A.M. (General), P.M. (Cerebral Palsy), St. Joseph's Hospital
December 19 — Rockford, St. Anthony's Hospital
December 20 — Chicago Heights (Cardiac), St. James Hospital
December 20 — Evanston, St. Francis Hospital

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Fellowships in allergy

The American Foundation for Allergic Diseases, 801 Second Avenue, New York 17, announced post-doctoral fellowships in research and clinical allergy.

The fellowships provide a stipend of $4,500 for the first year, $4,750 for the second year and

a two-year expense allowance of $750. Candidates must be graduates of approved medical schools and must have completed one or two years of graduate training required as a preliminary to certification by the Board of Internal Medicine or Board of Pediatrics.

Applications must be filed by December 15.

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American Board of Obstetrics and Gynecology

The Part I Examinations of the American Board of Obstetrics and Gynecology, are to be held in various parts of the United States and Canada, on Thursday, January 2, 1958, at 2:00 P.M.

Candidates notified of their eligibility to participate in Part I must submit their case abstracts within thirty days of notification of eligibility. No candidate may take the written examination unless the case abstracts have been received in the office of the Secretary.

Current Bulletins outlining present requirements may be obtained by writing to the Secretary's office. Robert L. Faulkner, M.D., American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio

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Ophthalmological clinical conference

The Chicago Ophthalmological Society will hold its annual clinical conference on February 21 and 22, 1958, at the Drake Hotel in Chicago, Illinois.

The guest speakers will include Dr. Wendell L. Hughes, Hempstead, N.Y., Dr. P. Robb, McDonald, Philadelphia, Pa., Dr. Phillips Thygeson, San Jose, California, Dr. Lorenz E. Zimmerman, Washington, D.C., Dr. Eugene R. Folk, Chicago, Illinois, Dr. Orville E. Gordon, Chicago, Illinois, Dr. William F. Hughes, Chicago, Illinois, Dr. Peter C. Kronfeld, Chicago, Illinois, Dr. David Shoch, Chicago, Illinois, Dr Derrick Vail, Chicago, Illinois and Dr. Howard L. Wilder, Chicago, Illinois.

The subjects will include a symposium on the complications of ophthalmic surgery, the zonule of the lens, glaucoma and retinal detachment surgery, plastic surgery techniques, management of glaucoma and cataract, melanotic tumors of the iris, and the structure of the vitreous.

Registration fee for the entire course, including round table luncheons and buffet supper is $45.00 and may be payable to the

Registrar, Mrs. Edward J. Ryan, 1150 North Lorel Avenue, Chicago 51, Illinois.

The Fourteenth Annual Samford R. Gifford Memorial Lecture will be delivered by Dr. Phillips Thygeson of San Jose, California, on Friday, February 21, 1958, at the Drake Hotel at 5:15 P.M. All ophthalmologists are invited to attend the Gifford Memorial Lecture and the buffet supper which follows.

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Announcement of the Van Meter Prize Award

The American Goiter Association again offers the Van Meter Prize Award of $300.00 and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The award will be made at the annual meeting of the Association which will be held in the St. Francis Hotel, San Francisco, California, June 17, 18 and 19, 1958, provided essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations, should not exceed 3,000 words in length and must be presented in English. Duplicate typewritten copies, double spaced, should be sent to the Secretary, Dr. John C. McClintock, 149½ Washington Avenue, Albany 10, New York, not later than February 1, 1958. The committee who will review the manuscripts is composed of men well qualified to judge the merits of the competing essays.

A place will be reserved on the program of the annual meeting for the presentation of the winning essay by the author.

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Traffic safety report

The Division of Traffic Safety, State of Illinois, Springfield, has available a limited number of reprints of an interview article with Governor Stratton which appeared in the magazine, Public Safety.

The article reflects the Illinois program of traffic safety and includes a progress report on recently enacted legislation.

The state's program is moving along. There was a 26 per cent reduction in fatalities in July and a 17 per cent drop in August.

THE P. R. PAGE

Overcharge views on wane

In February 1956, the AMA released the results of a comprehensive public survey covering every aspect of patient-physician relationship.

One of the questions asked concerned charges. Forty-three per cent of the answers said physicians overcharged, although only 16 per cent held that view about their own family doctor.

More recently, Elmo Roper, the pollster, conducted a survey. It is interesting to note that 32 per cent of the populace believes the medical profession is overcharging.

This reduction, from 43 per cent to 32 per cent, is an encouraging development. It indicates that the public relations efforts of the medical profession are bearing fruit through: (1), the public's realizing that on the whole physicians' charges are not out of line with conditions, and (2), physicians who were guilty of overcharging in the past are being more conservative in their bills.

There is one disconcerting note in the Roper poll. He found overcharging complaints reached 39 per cent in small towns, as against only 23 per cent in big cities. This caused him to comment that something has gone amiss with the "folklore" that the citadel of the family physician is the small town.

If it is any solace, Roper's poll also showed that the public believed it was being overcharged by others as well: plumbers, 29 per cent; dentists, 23 per cent; landlords, 21 per cent; electricians, 19 per cent, and auto mechanics, 19 per cent.

Public relations in the office

A medical practice management consultant is quoted in *Medical Economics* as saying:

"If your secretary ever begins acting as if she were conferring favors on your patients by giving them appointments or accepting their checks, better start looking for somebody new."

Behind this advice is the experience that no matter how fine a service is renderd by a physician his relationship with his patients may suffer because of the antagonism which may be aroused by impolite office help.

Physicians sometimes wonder why a patient does not return although he or she appeared to be satisfied on departing. It is possible that something happened on the way out.

Good public relations starts in the physician's office. However, it not only involves him but his help as well. Consequently, for the maintenance of a good relationship with patients, an occasional check on the manner in which office personnel operates is excellent preventive medicine.

If you can't speak kindly, don't speak

The analysis of 661 professional liability claims and suits which appeared in the Journal of the AMA, October 5, 1957, page 608, pro-

(*Continued on page 247*)

AT THE EDITOR'S DESK

ONE hundred and twenty papers were presented at the Fifth Annual Antibiotics Symposium in Washington in October. A new Czechoslovakian chemical, antibiolymphins, is said to direct antibiotics to certain tissues. The new compound has been used with Chloromycetin and in all probability will be combined with other antibiotics or medicinals for the same purpose. The localized effect may be useful in cancer therapy and diagnosis.

The FDA antibiotic research survey revealed that during the past three years almost 900 serious penicillin reactions have been reported. There were 72 anaphylactic fatalities; 63 stemmed from intramuscular penicillin and nine from combinations of IM penicillin and streptomycin. No deaths were reported from oral penicillin.

The first drug for specifically combating penicillin reactions was reported at this meeting. It is Neutrapen (Schenley), a penicillinase product, that is said to be the only agent that destroys the inciting penicillin antigen.

Panalba is a combination of PANmycin phosphate plus ALBAmycin. Upjohn is recommending this product to combat resistant strains of staphylococci. This pharmaceutical house is presenting new Medrol. They say it is the most efficient and best tolerated of all anti-inflammatory corticosteroids. A methyl group has been substituted for hydrogen in the 6-alpha position of prednisolone. The company states that Medrol produces full therapeutic effects with a dosage one-third lower than prednisolone and that relief is obtained with less edema, gastric distress, and psychic stimulation. The low salt diet is not needed.

Lilly issued news releases on V-Cillin K, their new oral penicillin; Darvon, a non-narcotic pain reliever; and liquid Trisogel, an aromatized aqueous suspension of aluminum hydroxide and magnesium trisilicate. Darvon is effective by mouth, low in toxicity, and is compatible with other drugs, including analgesics.

Lakeside has a new intramuscular iron product, Imferon, which is reported to be "free from toxic reactions, either local or systemic," after clinical trials.

Abbott announced the introduction of TRAL, a new anticholinergic drug. It has been subjected to extensive clinical investigation, with reports from 71 physicians on more than 1,000 cases. Good and excellent results were reported in 80 per cent of patients with peptic ulcer or "various functional and spastic conditions of the gastrointestinal tract."

Verazide, a new derivative of isoniazid, is

said to be superior to the parent drug and is less toxic and longer lasting. Much of the research has been done in Australia and South Korea. There are rumors also of a method of speeding up the guinea pig test for tuberculosis. It is done by injecting the suspected material into the brain of the animal. Tuberculous meningitis develops in 15 to 31 days.

A combination of nitrogen and prednisone was found useful in the treatment of nephritis and nephrosis. Permanent cure was obtained in 15, improvement in seven, and failure in five of 27 patients. This report comes from Austria.

Parke-Davis was granted a U.S. government license to market an adenovirus vaccine. It will be prepared from sero-types 3, 4, and 7 which have been identified with certain acute respiratory and conjunctival infections. The chief features of pharyngoconjunctival fever are follicular conjunctivitis, pharyngitis, rise in temperature, cervical lymphadenopathy, and rhinitis. Immunization lasts as long as four months after a 1 cc. injection. Thereafter, a booster shot will be needed.

The Borden Company's Prescription Products Department is offering a series of long playing records on pediatric allergy. Each disk is a postgraduate course in itself. They call these L. P.'s their clinical conversation pieces.

A group of Windsor, Ontario, pharmacists have started the first Group RX Insurance program in North America. It is patterned after hospital and medical programs and the new service will fill all prescriptions of subscribers at an expected average annual cost of $10 per person. Similar proposals for flat rate group service have been advanced in the U.S.A. from time to time but were opposed by organized pharmacy.

The Centimeter Club is one of Boston's easiest clubs to join. The only requirement for membership is that the physician record the blood pressure in centimeters, as is done in France, Greece, and Mexico, rather than in millimeters. Dr. James H. Currens, of Massachusetts, says: "It is rather foolish to use millimeters in expressing a reading that is seldom accurate to more than the nearest 10 millimeters or one centimeter."

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THE P.R. PAGE (continued)

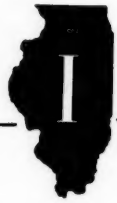
vides food for thought from a public relations standpoint.

In the majority of case histories reported it was indicated that some factor in addition to the alleged negligent act prompted the individual to file a claim or suit. Heading the list of secondary factors was careless comment about another physician. That reason was reported in 25.2 per cent of cases.

Contrast this with 15.4 per cent of actions prompted by attorneys and 7.2 per cent by relatives and one may realize the damaging effect of a thoughtless or careless comment about a colleague.

It doesn't help medical public relations to run down a fellow member.

NEWS of the STATE



ADAMS

The regular monthly meeting of the Adams County Medical Society, held at the Hotel Lincoln-Douglas, Monday evening, Oct. 14, was a joint meeting with the Adams County Bar Association. The fellowship hour was followed by a dinner, after which, Mr. Walter Oblinger of Springfield, Associate Counsel of the Illinois State Medical Society, addressed the meeting. Mr. Oblinger related and highly commended the work of the impartial medical testimony plan in personal injury suits that has been in effect in New York City since 1952. This was originally supported by grants from the Sloan and the Ford Foundations. Mr. Oblinger's address was followed by a sound film entitled "The Medical Witness" produced jointly by the American Medical Association and the American Bar Association. A general discussion followed the talk and film presentation.

At the business session, Dr. Wm. S. White of Quincy, who has been a member of the Illinois State Medical Society at Springfield, Ill., for some years, was elected to membership in the local society. The next monthly meeting of the society, on November 11, will be devoted to Civil Defense, and Dr. Charles L. Maxwell of Chicago, Deputy Director for Health, State of Illinois, will be the speaker. All Quincy workers in civil defense, including the members of the Woman's Auxiliary to the Adams County Medical Society, will be invited to attend.

NEW MEDICAL DIRECTOR.—Dr. W. H. McCain, internist at St. John's Sanitarium and Crippled Children's Hospital, Springfield, has been appointed medical director of Hillcrest Sanitarium, Quincy. He succeeds Dr. Clare Miller, who resigned, October 16, after twenty-seven years' service.

PERSONAL.—Dr. John P. Wood, who recently retired from the U. S. Navy, in which he held the rank of captain, with more than twenty-nine years' service, has become associated with Drs. Gordon M. Perisho and Kenneth H. Vinnedge, Quincy. His practice will be confined to radiology.—Dr. Ralph F. Davis, who recently completed two and one half years as chief of radiologic service at the Veterans' Administration, Wadsworth, Kan., has become associated with Dr. Harold Swanberg, Quincy.—Dr. B. J. Rodriguez, recently of Antioch, has established practice in Barry.

CHAMPAIGN

POSTGRADUATE CONFERENCE.—The Committee on Postgraduate Medical Education and Scientific Service of the Illinois State Medical Society and the faculty of Northwestern University Medical School presented a postgraduate conference at the Elks Club, Champaign, November 14, with the Champaign County Medical Society acting as host. Presiding officers were Drs. William H. Schowengerdt, Champaign, a member of the state society's committee, and James D. McKinney, Champaign, president of the county medical society. Speakers were Drs. David Hsia, associate professor of pediatrics; F. John Lewis, professor of surgery; Walter J. Kuhl, Jr., assistant professor of medicine and Melvyn Bayly, associate in obstetrics and gynecology. Discussants were Drs. Myron Korry,

Joseph B. Seagle, John H. Gernon, Homer A. Hindman, Jr., Phil A. Daly, Charles H. Drenckhahn, Carl Greenstein and Thomas R. Wilson.

At the dinner meeting, Dr. John T. Graynack, assistant professor of urology and director of the Kretschmer Memorial Laboratory, spoke on "Common Urological Problems," and Dr. Harlan English, Danville, Councilor of the Eighth District, "Medical Organization."

A dinner meeting of the Champaign County Woman's Auxiliary was addressed by Dr. James R. Hines on "Europe Today."

COOK

SURGEONS CHOOSE OFFICERS.—Dr. Charles B. Puestow was recently elected president of the Chicago Surgical Society. Other officers include Drs. John L. Keeley, vice president; J. Garrott Allen, secretary; Burton C. Kilbourne, treasurer; Richard J. Bennett, recorder, and Geza deTakats, John M. Dorsey, and Earl Garside, councilors.

HOSPITAL NEWS.—A $250,000 neurosurgical nursing floor was dedicated, September 8, in Billings Hospital. Known as an intensive nursing area, it is devoted solely to the treatment of persons recovering from brain operations. The new unit was financed by funds from the university, grants to the university and by the Goldblatt Brothers Employees Nathan Goldblatt Cancer Research fund.

DR. DORFMAN RECEIVES AWARD.—The Mead Johnson Award of the American Academy of Pediatrics was recently presented to Dr. Albert Dorfman, professor of pediatrics, University of Chicago School of Medicine, and director of La Rabida Sanitarium. The honor was in recognition of Dr. Dorfman's work on connective tissues. In a talk following his acceptance of the award, he reviewed his research on the polysaccharides, eight of which are produced by the connective tissues and not normally excreted. The Mead Johnson Awards, established in 1938, are given for pediatric research. They include an honorarium of $1,000 and a certificate and are given annually for research, the results of which have been published in the previous calendar year.

KARL MEYER HONORED.—More than 1,200 persons attended a testimonial dinner, September 30, given in honor of Dr. Karl A. Meyer, superintendent of Cook County Hospital, and to mark the opening of a $750,000 fund raising campaign for the Chicago Foundling Home. Mrs. Salvatore Ferrara, general chairman of the dinner, held in the Sherman Hotel, presented Dr. Meyer, president of the home's board, with a check for $93,000. The money represented the $50 a plate paid by the guests and other contributions, newspapers reported. On October 2, Dr. Meyer was honored by the Chicago Medical Society at its Annual Dinner, marking his completion of a term as President of the Society. On this occasion he was presented with a wall clock for the Foundling Home. In his speech of acceptance, Dr. Meyer stated that "next to the Chicago Medical Society, his love was for the Foundling Home."

PERSONAL.—Dr. Attallah Kappas, associate member in the division of steroid metabolism, Sloan-Kettering Institute for Cancer Research, New York, and a graduate of the University of Chicago School of Medicine, has been appointed assistant professor of medicine at the university's Division of Biological Sciences. He will be in charge of the section on arthritis at the University of Chicago Clinics.—Dr. Louis B. Newman, Chicago, was recently named president-elect of the American Academy of Physical Medicine and Rehabilitation. Dorothea C. Augustin, Chicago, is executive secretary of the academy with offices at 30 North Michigan Avenue, Chicago 2.—Dr. Francis E. Senear, emeritus professor and head of the department of dermatology, was recently elected president of the International Congress of Dermatology. He has served in a similar capacity with the Chicago Dermatology Society, The American Dermatology Association, and the American Academy of Dermatology and Syphilology.—Dr. James N. Waggoner, assistant district medical manager of United Air Lines, has been named manager of the line's new medical center in Los Angeles. He has been succeeded in Chicago by Dr. James Keehan, a former flight surgeon in the U. S. Air Force and recently engaged in private practice.—Dr. Roy M. Whitman, associate professor of psychiatry and neurology, Northwestern University Medical School, has resigned to become associate professor of psychiatry at the University of Cincinnati College of Medicine.

SPECIAL LECTURES.—The twenty-ninth annual Arthur Dean Bevan Lecture of the Chicago Surgical Society was recently presented by Dr. Michael E. DeBakey, Judson L. Taylor professor of surgery, Baylor University College of Medicine, Houston, Texas. His subject was "Changing Concepts in Aortic and Arterial Surgery."—"The Evolution of Anatomy" was the title of the first lecture in a series on surgery being sponsored by the International College of Surgery. Dr. H. W. Magoun, department of anatomy, University of California Medical School, Los Angeles was the speaker.—Dr. J. Roswell Gallagher, Boston, delivered the fifth Harry Remer Memorial Lecture at La Rabida Sanitarium recently on "Medical and Emotional Problems of the Adolescent Patient." Dr. Gallagher is chief of the adolescent unit at Children's Medical Center, Harvard University, Boston.—Prof. Ian Aird, chief of the surgical service and head of the department of surgery, at the postgrad-

uate medical school of the University of London, England, gave the Charles H. Mayo Memorial Lecture at Northwestern University Medical School, October 25, on "Pancreatectomy."

PHYSICANS ARE APPOINTED TO CHICAGO BOARD OF HEALTH.—Dr. Lowell T. Coggeshall, dean of the division of biological sciences of the University of Chicago, and Dr. Theodore K. Lawless, dermatologist, have been appointed to the Chicago Board of Health, newspapers reported.

The appointments were in accordance with an ordinance past last June, increasing the board from five to nine members. Two places remain to be filled.

Dr. Coggeshall was chairman of the department of medicine at the University of Chicago when he resigned in 1949 to devote full time to research and to his duties as dean of the division of biological sciences. He is president-elect of the American Cancer Society and of the Association of American Medical Colleges.

Dr. Lawless has received several awards for his accomplishments in medicine and for his service to the Negro race.

DINNER TO HONOR DR. SHEININ.—On November 26 a dinner will be held in the Grand Ballroom of the Conrad Hilton Hotel to honor Dr. John J. Sheinin on the twenty-fifth anniversary of his association with the Chicago Medical School. The occasion will also launch a drive for $3,600,000 for an expansion program for the school, which recently received a grant of $1,000,000 from the U. S. Public Health Service for a new medical and research building. Dr. Sheinin joined the staff of the medical school in 1932 as head of the department of anatomy. He was made dean in 1935 and elected president in 1950. Harvey Kaplan, vice president and treasurer of the M. S. Kaplan Company, has been named chairman of the anniversary dinner, which is expected to attract more than 1,500 persons.

FACULTY APPOINTMENTS.—The following physicians have been named to the faculty of Chicago Medical School: Catherine K. Cullinan, associate in psychiatry; Stefan A. DeKowski, clinical assistant in neurosurgery; Seymour Fishkin, instructor in medicine (full time); Melvin G. Goldzband, clinical assistant in psychiatry; Jacob Ladenheim, clinical assistant in ophthalmology; Nathan Schlessinger, associate in psychiatry; Peter B. Segal, associate in gynecology and obstetrics, and Jacob Ungar, clinical assistant in medicine.

DR. SLAYTON NAMED TO NEW POSITION AT ST. LUKE'S.—Dr. Robert E. Slayton has been appointed director of medical education at St. Luke's Hospital, Chicago. In this newly created position, Dr. Slayton's duties will be to strengthen and direct the educational program for the intern and resident staff. A graduate of the University of Chicago School of Medicine, Dr. Slayton interned at the Cleveland City Hospital. He completed a two year residency at St. Luke's in 1943 when he went to the Joslin Clinic in Boston; subsequently he served as a lieutenant in the U. S. Navy.

PAUL CANNON RETIRES—SUCCEEDED BY ROBERT WISSLER.—Dr. Paul Cannon retired as professor and chairman of the department of pathology at the University of Chicago School of Medicine, effective September 30. He has been succeeded by Dr. Robert W. Wissler, professor of pathology. Dr. Cannon has been on the medical faculty for thirty-two years, serving for the last seventeen as professor and chairman of the department. As professor emeritus, he will maintain an office and will continue as chief editor of the American Medical Association's Archives of Pathology. As a medical scientist, Dr. Cannon is best known for his work on tissue antibodies and on foods the body needs to maintain them. For his work in immunity and nutrition, Dr. Cannon was awarded in 1948 both the Ward Burdick Medal of the American Society of Clinical Pathologists and the William Wood Gerhard Gold Medal of the Pathological Society of Philadelphia.

Dr. Wissler, who has been associated with the university since 1941 both as a student and teacher, in 1947 received the Howard Taylor Ricketts Medal for outstanding research by a student in pathology and bacteriology and in 1952 the Joseph A. Capps Prize of the Chicago Institute of Medicine for producing hardening of coronary arteries in animals.

PHYSICIANS RETIRE.—Dr. George F. Munns, Winnetka, officially retired from the active practice of medicine, October 3. Dr. Munns, professor of pediatrics at Northwestern University Medical School, and a staff member of Children's Memorial Hospital, and his wife, will make their home in Palm Desert, Calif.—Dr. A. E. W. Jourdan was guest of honor at a dinner recently, given by the staff of Martha Washington Hospital to mark his retirement after fifty-two years in the practice of medicine and ending his membership on the hospital's staff after thirty years' service. Dr. Jourdan had served as president of the staff from 1946 to 1952.

SCIENTISTS NAMED TO NEW HONORS AT CHICAGO.—William Bloom, professor of anatomy and member of the committee on biophysics, has been named Charles H. Swift Distinguished Service Professor at the University of Chicago Division of Biological Sciences, and Heinrich Kluver, professor of experimental psychology, has been designated Sewell L. Avery Distinguished Service Professor. Dr. Bloom, a member of the Chicago faculty since 1900, is particularly well known among biologists for his studies of cellular growth and behavior, cellular division,

the processes of formation of blood and bone, and general histology. Dr. Kluver was the first to study eidetic imagery (visualizations with the character of reality) and eidetic memory in children. In recent years he has made contributions to the chemistry of the brain and developed a new method for staining nerve cells and nerve fibers which is being widely used in hospitals and laboratories.

Movie Wins Honors.—Dr. Hans Von Leden and Paul Moore, Ph.D., both of the faculty of Northwestern University Medical School, recently won two awards for their movie on "The Function of the Normal Larynx." The awards were the "Minerva, or first prize, from the International Film Festival for Medical and Scientific Films, Turin, Italy, and a silver robot, or special award, from the III International Congress for Specialized Cinematography, Rome. The latter was in recognition for the perfection of a new technique in recording laryngeal function by high speed photography.

Refresher Course.—The Medical Alumni Association of the University of Illinois announces sponsorship of a Fall Medical Refresher, to be held November 23, on the University's professional colleges campus in Chicago. Announcement of the event was made recently by Dr. John P. O'Neil, President of the Medical Alumni Association.

The day-long affair, first of its kind at the College of Medicine, will consist of panels and open symposiums on current medical problems, moderated by key faculty members. Tours of the hospitals and Medical College with a social hour and dinner at the Illini Union Building are also part of the many activities planned.

Medical alumni from the University of Illinois now total nearly 6,000 physicians from the nation's third largest medical college, with a current enrollment of 650 students.

Present Association plans to make such medical refreshers twice-annual events reflect new and vigorous expansions of the University of Illinois medical alumni activities and are designed to combine homecoming reunion pleasures with current medical developments for the Illini physicians.

Dr. George W. Moxon of Chicago and Dr. Marcus R. Caro of the College of Medicine faculty are in charge of arrangements.

GREENE

Society News.—Dr. Frederick W. Falls, emeritus professor of obstetrics and gynecology, University of Illinois College of Medicine, addressed the Greene County Medical Society, September 17, in White Hall. His subject was "The History of the Committee on Maternal Welfare in Illinois: Its Aims and Purposes."

KANKAKEE

Dr. Odom Retires.—Dr. Cleve C. Odom, medical superintendent of Kankakee State Hospital, has retired, effective October 16. He will be succeeded by Dr. Armin H. Wolff, who holds a similar position at East Moline State Hospital.

KNOX

Society News.—At a meeting of the Knox County Medical Society in Galesburg, September 19, Dr. Robert J. Jenšik, Chicago, clinical associate professor of surgery, University of Illinois College of Medicine, spoke on "Surgical Management of Pulmonary Diseases."

LAKE

New Members.—The transfer of membership of the following three physicians into the Lake County Medical Society has been approved: Peter S. Teresi, Grayslake, from the Chicago Medical Society; Bernard M. Kaye, Highland Park, from the Polk County (Iowa) Medical Society, and John P. Risley, Waukegan, from the Washington County (Maryland) Medical Society. The society also accepted into membership the following physicians: Joseph Tauchas, Lake Villa; Ceslovas Kizlauskas, Fox Lake, and Anthony Ciuris, Lake Zurich; Sergio L. Fuentes and Dulce M. Milanes, both of Grayslake.

LA SALLE

New Officers.—Dr. Martin Rosenthal, La Salle, was recently elected president of the La Salle County Medical Society. Other officers are Drs. R. R. Musick, Mendota, vice president; R. J. Bailey, Ottawa, and J. S. Geen, Utica; J. W. Geiger, La Salle, and E. D. Seymour, Streator, members of the board of censors. Drs. W. A. Scanlon, and J. B. Aplington, both of La Salle, are delegate and alternate, respectively, to the Illinois State Medical Society.

Postgraduate Conference.—On October 24 a postgraduate conference was held at the Kaskaskia Hotel, La Salle, under the auspices of the Committee on Postgraduate Medical Education and Scientific Service of the Illinois State Medical Society and the faculty of Stritch School of Medicine of Loyola University, and with the La Salle County Medical Society acting as host. Presiding officers were Drs. George E. Kirby, Spring Valley, Co-Chairman of the state society committee, and E. G. Barton, Streator, president of the county medical society. Participants in the afternoon scientific program were Drs. Peter J. Talso, John R. Tobin, George W. Ferenzi, Joseph V. Condton, Charles S. Gilbert, John J. O'Brien, all of the department of medicine; Joseph R. Christian, professor of pediatrics, and Joseph T. Coyle, clinical associate in bone and joint surgery. Subjects included "Electrolyte and Fluid Problems" (surgery, pediat-

rics and congestive heart failure); "Collagen Disease: Emphasizing Disseminated Lupus Erythematosus", "Hypofibrinogenemia" and "Fractures in Children." Discussants were Drs. Dexter Nelson, Jerome F. Sickley, William J. Farley, Russell Simonetta and B. J. Doyle.

The dinner speakers were Drs. Joseph T. O-'Neill, Ottawa, Councilor of the Second District, on "Medical Organization", and Lester S. Reavley, Sterling, President of the Illinois State Medical Society, on "The Medicare Program."

PEORIA

PERSONAL.—Dr. Jay C. Alameda announces the opening of his office for the practice of orthopedic surgery in the First National Bank Building, Peoria.

SOCIETY NEWS.—At a meeting of the Peoria Medical Society in the University Club, Peoria, October 15, Mr. Edward J. Holman, staff assistant, Law Department, American Medical Association, spoke on "Malpractice." In September the society was addressed by Dr. Edward Reinhard, professor of medicine, Washington University School of Medicine, St. Louis, on "Chemotherapy of Neoplastic Disease."

SANGAMON

AUXILIARY MEETS WITH MEDICAL SOCIETY.—On October 3 a joint meeting of the Sangamon County Medical Society and its Woman's Auxiliary was held in the Leland Hotel, Springfield. Speakers were Dr. J. Otto Lottes, assistant professor of orthopedic surgery, Washington University School of Medicine, St. Louis, on "Intramedullary Nailing of Fractures" and members of the League of Women Voters on the "League's Realm and Responsibility."

VERMILION

SOCIETY NEWS.—Dr. Eugene M. Regen, associate professor of orthopedic surgery, Vanderbilt University School of Medicine, Nashville, discussed "Low Back Pain" before the Vermilion County Medical Society at its dinner meeting, October 1, in the Hotel Wolford, Danville.

NEW MEMBERS.—Drs. W. F. Hensold and R. G. Bowen have been unanimously approved for permanent membership in the Vermilion County Medical Society, both having completed their probationary year.

GENERAL

STATE-WIDE PUBLIC HEALTH COMMITTEE.—Dr. Lester S. Reavley, Sterling, President of the Illinois State Medical Society, gave the principal luncheon address during the thirteenth annual meeting of the Illinois State-Wide Public Health Committee in Starved Rock Lodge, Starved Rock State Park, October 16. His subject was "The Illinois State Medical Society and the Full-time County Health Department." Benjamin Wham, chairman of the state-wide committee, presided, and Dr. Roland R. Cross, Springfield, director of the Illinois Department of Public Health", gave the address of welcome. A feature of the afternoon program was a report on the recently created health unit in Lake County. Mrs. Orville Foreman, Jacksonville, is the new co-chairman of the state-wide public health committee, succeeding Mrs. Margaret B. Cowdin, Springfield.

SHORTAGE OF CADAVERS.—A six-part program has been proposed by a committee of the National Society for Medical Research to relieve the increasingly serious shortage of cadavers threatening the quality of medical education in the United States.

"A majority of medical colleges report that they are unable to obtain enough bodies to teach student doctors efficiently," Dr. Oliver P. Jones, head of the anatomy department at University of Buffalo Medical School and chairman of the committee said. "Some schools have been forced to drop such important courses as surgical anatomy."

The committee's program includes:

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students. "This means four students to each body," Dr. Jones explained.

"If we have to assign a larger number of students to each cadaver, as we will if the shortage continues, students will not get proper experience in dissection. And they will be inadequately prepared when they subsequently have to operate on living patients."

FOOD CRUSADE FOR CARE.—Contributions are now being received in CARE's 1957 Food Crusade, the aim of which is to send food packages into twelve foreign areas. A single dollar will provide food for an entire month for one family. The food, which consists of milk powder, cheese, flour and cornmeal, is given free to CARE by the U. S. Government, and the dollar contribution pays the packing, shipping and distribution costs of one 22-pound package to the following areas: Ceylon, Colombia, Greece, Hong Kong, West Germany and Berlin, India, Israel, Italy, Korea, Macau, Pakistan, Peru and Yugoslavia. CARE is the abbreviation for Cooperative for American Remittances to Everywhere, Inc. For every single dollar contribution received, CARE can send 22 pounds of food overseas; $10 will feed forty people for one month, and $100 will deliver one ton of food to a needy village, orphanage or refugee camp. Contributions may be sent to CARE, Chicago, or directly to CARE, 660 First Avenue, New York 16. Principal Railway Express Agency offices also accept CARE food crusade contributions as a public service. Contributions are income-tax deductible.

NEW "OB. AND GYNE" OFFICERS.—Dr. Harold E. Smith, Maywood, was named president-elect of the Illinois Obstetrical and Gynecological Society recently and Dr. Ray E. Bucher, Danville, was inducted as president. Other officers are Drs. Gilbert H. Edwards, vice president, Pinckneyville; Mary Louise Newman, Jacksonville, secretary; David M. Jenkins, Bloomington, assistant secretary, and Ralph N. Redmond, Sterling, treasurer. Meetings of the society are held the third Thursday in January, the day before the opening meeting of the Illinois State Medical Society in May and in August. Applications for membership in the society may be obtained from Dr. Newman, secretary of the society.

CHANGE IN NAME FOR MEDICAL ASSISTANTS.—At its first state meeting in Quincy recently, the Illinois State Medical Secretaries and Assistants Association changed its name to the Illinois Medical Assistants Association. This progressive group, which is rapidly expanding both in membership and activities, brought out its first official News Letter in September. It is to be published eight times a year. Jessie Breinig, 187 North Marion Street, Oak Park, is editor. Officers of the association include Elvera Fischer, president, Chicago; Thelma Newberry, president-elect, Quincy; Virginia Browning, Chicago, and Melba Johnson, Quincy, vice presidents; Marietta Munnis, Chicago, secretary and Darlene Howard, Quincy, treasurer.

Lectures Arranged Through the Illinois State Medical Society:

THOMAS F. KRUCHEK, clinical assistant in psychiatry, Stritch School of Medicine of Loyola University, Toman Branch Library Forum, November 8, on "The Tranquilizer Question."

FRANCIS O. LAMB, psychiatric consultant, Glenwood School for Boys, Women's Council of Max Straus Center, November 26, on "Keep Yourself Mentally Trim."

JOHN A. MART, associate in medicine, Northwestern University Medical School, LaSalle County Medical Society at the Highland Sanitarium in Ottawa, October 10, on "Chest Diseases."

JOHN M. REICHERT, instructor in pediatrics, Northwestern University Medical School, Whiteside and Lee County Medical Societies at Gordon's Restaurant in Sterling, October 17, on "Common Pediatric Problems."

JOSEPH H. GARTHE, staff pediatrician at St. Anthony's Hospital in Rockford, Stephenson County Medical Society at the Hotel Freeport in Freeport, November 21, on "Common Pediatric Problems."

DEATHS

EMANUEL MORRIS ARNOVITZ*, Granite City, who graduated at St. Louis University School of Medicine in 1924, died July 8, aged 60. He was a member of the staffs of the Missouri Baptist Hospital, St. Louis, and St. Elizabeth Hospital in Granite City.

AUGUST A. BAUER*, Kankakee, who graduated at the Chicago Medical School in 1928, died in July, aged 61.

EDMOND BECHTOLD*, Belleville, who graduated at Washington University School of Medicine, St. Louis in 1915, died July 16, aged 65, of coronary thrombosis. He was past president of the Belleville Branch, St. Clair County Medical Society, and a member of the staff of St. Elizabeth's Hospital.

BERT M. BREWSTER*, Jerseyville, who graduated at Washington University School of Medicine, St. Louis, in 1905, died August 21, aged 75.

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students. "This means four students to each body," Dr. Jones explained.

"If we have to assign a larger number of students to each cadaver, as we will if the shortage continues, students will not get proper experience in dissection. And they will be inadequately prepared when they subsequently have to operate on living patients."

FOOD CRUSADE FOR CARE.—Contributions are now being received in CARE's 1957 Food Crusade, the aim of which is to send food packages into twelve foreign areas. A single dollar will provide food for an entire month for one family. The food, which consists of milk powder, cheese, flour and cornmeal, is given free to CARE by the U. S. Government, and the dollar contribution pays the packing, shipping and distribution costs of one 22-pound package to the following areas: Ceylon, Colombia, Greece, Hong Kong, West Germany and Berlin, India, Israel, Italy, Korea, Macau, Pakistan, Peru and Yugoslavia. CARE is the abbreviation for Cooperative for American Remittances to Everywhere, Inc. For every single dollar contribution received, CARE can send 22 pounds of food overseas; $10 will feed forty people for one month, and $100 will deliver one ton of food to a needy village, orphanage or refugee camp. Contributions may be sent to CARE, Chicago, or directly to CARE, 660 First Avenue, New York 16. Principal Railway Express Agency offices also accept CARE food crusade contributions as a public service. Contributions are income-tax deductible.

NEW "OB. AND GYNE" OFFICERS.—Dr. Harold E. Smith, Maywood, was named president-elect of the Illinois Obstetrical and Gynecological Society recently and Dr. Ray E. Bucher, Danville, was inducted as president. Other officers are Drs. Gilbert H. Edwards, vice president, Pinckneyville; Mary Louise Newman, Jacksonville, secretary; David M. Jenkins, Bloomington, assistant secretary, and Ralph N. Redmond, Sterling, treasurer. Meetings of the society are held the third Thursday in January, the day before the opening meeting of the Illinois State Medical Society in May and in August. Applications for membership in the society may be obtained from Dr. Newman, secretary of the society.

CHANGE IN NAME FOR MEDICAL ASSISTANTS.—At its first state meeting in Quincy recently, the Illinois State Medical Secretaries and Assistants Association changed its name to the Illinois Medical Assistants Association. This progressive group, which is rapidly expanding both in membership and activities, brought out its first official News Letter in September. It is to be published eight times a year. Jessie Breinig, 187 North Marion Street, Oak Park, is editor. Officers of the association include Elvera Fischer, president, Chicago; Thelma Newberry, president-elect, Quincy; Virginia Browning, Chicago, and Melba Johnson, Quincy, vice presidents; Marietta Munnis, Chicago, secretary and Darlene Howard, Quincy, treasurer.

Lectures Arranged Through the Illinois State Medical Society:

THOMAS F. KRUCHEK, clinical assistant in psychiatry, Stritch School of Medicine of Loyola University, Toman Branch Library Forum, November 8, on "The Tranquilizer Question."

FRANCIS O. LAMB, psychiatric consultant, Glenwood School for Boys, Women's Council of Max Straus Center, November 26, on "Keep Yourself Mentally Trim."

JOHN A. MART, associate in medicine, Northwestern University Medical School, LaSalle County Medical Society at the Highland Sanitarium in Ottawa, October 10, on "Chest Diseases."

JOHN M. REICHERT, instructor in pediatrics, Northwestern University Medical School, Whiteside and Lee County Medical Societies at Gordon's Restaurant in Sterling, October 17, on "Common Pediatric Problems."

JOSEPH H. GARTHE, staff pediatrician at St. Anthony's Hospital in Rockford, Stephenson County Medical Society at the Hotel Freeport in Freeport, November 21, on "Common Pediatric Problems."

DEATHS

EMANUEL MORRIS ARNOVITZ*, Granite City, who graduated at St. Louis University School of Medicine in 1924, died July 8, aged 60. He was a member of the staffs of the Missouri Baptist Hospital, St. Louis, and St. Elizabeth Hospital in Granite City.

AUGUST A. BAUER*, Kankakee, who graduated at the Chicago Medical School in 1928, died in July, aged 61.

EDMOND BECHTOLD*, Belleville, who graduated at Washington University School of Medicine, St. Louis in 1915, died July 16, aged 65, of coronary thrombosis. He was past president of the Belleville Branch, St. Clair County Medical Society, and a member of the staff of St. Elizabeth's Hospital.

BERT M. BREWSTER*, Jerseyville, who graduated at Washington University School of Medicine, St. Louis, in 1905, died August 21, aged 75.

JOHN J. DAVIES*, Moline, who graduated at

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State University of Iowa College of Medicine in 1941, died in August, aged 42.

HAROLD W. DINGMAN, Chicago, who graduated at the University of Toronto Faculty of Medicine, Montreal, in 1905, and at Grand Rapids Medical College, Michigan, in 1906, died September 30, aged 73. He was vice-president and former medical director of Continental Assurance Company.

ROBERT FLENTJE*, Springfield, who graduated at St. Louis University School of Medicine in 1906, died in St. John's Hospital July 16, aged 76. He was past-president of the Sangamon County Medical Society.

ARTHUR L. HAGLER*, retired, Milwaukee, formerly of Decatur, who graduated at Rush Medical College in 1899, died June 1, aged 88.

CARL J. E. HELGESON*, Chicago, who graduated at Rush Medical College in 1927, died October 7, aged 61. He was a member of the staff of the Illinois Central Hospital.

KARL J. HENRICHSEN*, East Moline, formerly of Chicago, who graduated at Loyola University School of Medicine in 1916, died September 21, aged 78. He was medical superintendent at the Municipal Tuberculosis Sanitarium from 1933 to 1948.

JAMES JACOB HOFFER, retired. Chicago, who graduated at National Medical Univesrsity, Chicago, in 1907, died in Long Island, New York, July 15, aged 79. He was also a dentist.

HENRY FREDERICK KALLENBERG, River Forest, who graduated at Northwestern University Medical School in 1900, died at the YMCA Camp near Estes Park, Colo., where he was recreation director, July 25, aged 91.

ROBERT LEONIDAS KANE*, Herrin, who graduated at St. Louis University School of Medicine in 1910, died July 8, aged 72, of uremia. He was a member of the staff of Herrin Hospital.

HENRY LOWRY KNOWLES, Peoria, who graduated at the College of Medicine and Surgery (Physio-Medical), Chicago, in 1903, died May 13, aged 80.

GEORGE J. KRUK, Chicago, who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, in 1904, died September 25, aged 82.

HAROLD W. LUESSSMAN*, retired, Chicago, formerly of Evanston, who graduated at Loyola University School of Medicine in 1923, died September 14, aged 59. He was a former member of the staff of St. Francis Hospital, Evanston.

HERBERT O. LUSSKY*, Evanston, who graduated at Rush Medical College in 1917, died September 26, aged 70. He was a member of the staffs of Evanston and St. Francis Hospitals, and a former staff member of the Children's Memorial Hospital.

SIDNEY L. MANN*, Summit, who graduated at Bennett Medical College, Chicago, in 1913, died October 8, aged 70. He was a member of the staff of Holy Cross Hospital in Chicago.

ROBERT E. MORAN*, retired, Fort Lauderdale, Florida, formerly of Chicago, who graduated at Loyola University School of Medicine in 1926, died recently, aged 61. He was former house physician at the Palmer House and a member of the staff at St. Francis Hospital, Evanston.

LOUIS OSTROM*, Rock Island, who graduated at Missouri Medical College, St. Louis, in 1899, died August 5, aged 83.

JACOB H. PEISKER, Hardin, who graduated at Barnes Medical College, St. Louis, in 1910, died in September, aged 70.

WINIFRED A. Y. ROBB*, Danville, who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, in 1901, died July 24, aged 85.

JOSEPH SHANKS*, Chicago, who graduated at the College of Medicine and Surgery, Chicago, in 1910, died September 21, aged 67.

JOHN P. J. SHORE*, Sailor Springs, who graduated at Barnes Medical College, St. Louis, in 1903, died in August, aged 78.

LOUIS H. STERN*, Chicago, who graduated at the University of Illinois College of Medicine in 1916, died October 6, aged 64. He was a member of the staff of the Chicago Community Hospital.

JOSEPH C. URKOV*, Chicago, who graduated at Chicago College of Medicine and Surgery in 1914, died October 8, aged 64. He was at one time chief of the plastic surgery division of the American Hospital.

HENRY L. WENNER*, Elgin, who graduated at the University of Michigan Medical School, Ann Arbor, in 1914, died September 21, aged 69.

JOSEPH M. ZINGHER*, Jacksonville, formerly of Rushville, who graduated at the Chicago Medical School in 1949, died in August, aged 37.

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